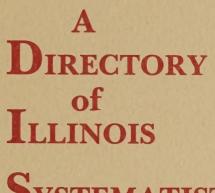
2547d cop. 2



Systematists and Ecologists

Kenneth R. Robertson Philip J. Burton Bill N. McKnight



Illinois Natural History Survey Special Publication 3

April 1986

The Library of the

NOV 0 3 1986

University of Illinois

UNIVERSITY OF
ILLINOIS LIBRARY
AT URBANA-CHAMPAIGN
STACKS

38

A DIRECTORY OF ILLINOIS SYSTEMATISTS AND ECOLOGISTS

Kenneth R. Robertson Philip J. Burton Bill N. McKnight Section of Botany and Plant Pathology Illinois Natural History Survey

607 E. Peabody Drive Champaign, Illinois 61820

Special Publication 3 April 1986

Table of Contents

										P	age
Table of Contents											i
Acknowledgements									٠		ii
1. Introduction		•	•								1
2. The Questionnaire											1
3. Summary of Responses	•3.6										2
3.1 Background Information .										٠	2
3.2 Areas of Expertise								•		•	5
4. The Directory (9
4.1 Key to Numerical Codes .											9
4.2 Alphabetical Listing											10
5. Index											83
5.1 Categorical Response Index											83
5.1.1 Organisms Worked Wit	th									٠	83
5.1.2 Systematic Techniques	Us	sed									84
5.1.3 Ecological Interests .								. 7	\$.		84
5.2 Free-Format Response Index	ζ.										88
5.2.1 Geographic Areas .						٤.					88
5.2.2 Taxonomic Expertise	• 60										90
5.2.3 Ecological Expertise				43							94
6. Appendix I: Revised Questionnaire	,										99

Acknowledgements

The Illinois Department of Transportation, Bureau of Location and Environment, provided partial funding for the preparation and publication of this directory. Special thanks are extended to Charles Perino (Chief, Natural Science) and Paul Biggers (Chief of Environment) for their support.

Several staff members of the Illinois Natural History Survey (including Frank Brookfield, Randy L. Butler, Betsy Calvert and Louis R. Iverson) provided crucial support in database design and computer programming. Robert Korb prepared the figures and guided the manuscript through the typesetting process. We also thank Paul G. Risser, Chief of the Natural History Survey, for his enthusiastic support of this project.

We would finally like to thank all the people who took the time to fill out and return the rather long questionnaire. We hope that this publication will provide some reward for their efforts.

This paper is printed by authority of the State of Illinois and is a contribution from the Botany and Plant Pathology Section of the Illinois Natural History Survey. Dr. Kenneth R. Robertson is a Botanist; Philip J. Burton and Bill N. McKnight are Research Biologists.

1

574,5025773 R547d

1. Introduction

Illinois is fortunate in having a large number of biological systematists and ecologists affiliated with universities, colleges, museums, botanical and zoological gardens, private companies and government agencies. The purpose of this directory is to provide a centralized list of the systematists and ecologists living or doing research in Illinois. While a number of professional societies have membership lists, there has been no single source that gives the addresses, phone numbers and areas of expertise for this group of scientists in Illinois.

Systematists study the classification and evolutionary relationships of organisms, while ecologists study the interactions of organisms with their biotic and abiotic environments. Systematists and ecologists generally share common interests in the evolutionary history of organisms and in the conservation of their present populations. In addition, both groups of scientists include field biologists well versed in the taxonomic identification of organisms and the estimation of population sizes and habitat requirements. Because of rising environmental concerns, the practical skills of this group of researchers are in high demand for use in environmental impact assessment, natural areas inventory and management, agricultural and forestry management, and for public education.

We envision two principal users of this directory. Scientists and administrators should find this list useful as an address book of colleagues, while others are expected to use it as a resource book to locate systematists and ecologists with specific areas of expertise. In this manner, it is hoped that the directory will facilitate communication among Illinois biologists, and that corporations, agencies or individuals in need of specific systematic or ecological expertise will be more readily able to obtain it. Additionally, it provides a cross-sectional description (summarized in Section 3) of the affiliations, commitments, interests and skills of this group of scientists.

This directory is a summary of the responses returned from a mail questionnaire. Responses can be considered current to about mid-1984. The directory is not a complete list of all systematists and ecologists in the state; qualified scientists not currently listed are urged to return the questionnaire at the end of this publication for inclusion in future additions. We cannot vouch for the accuracy of responses, as we have attempted to transcribe them simply as written, with a minimum of editing (although some standardization of terminology was done in preparing the indices).

Research scientists, environmental biologists and the general public are encouraged to make use of this directory to help identify professional biologists with specific areas of expertise. Please note that there is no obligation on the part of individuals listed in this directory to cooperate with any or all requests for assistance. The first step in identifying individuals with specific interests is to search one or more of the geographic, taxonomic or ecological subject indices in Section 5. The indices give the record numbers of all individuals who cited the specified subject; the names, addresses and additional information regarding these individuals are provided in the alphabetical listing making up the body of this directory (Section 4.2).

2. The Questionnaire

A three-page questionnaire form was devised to collect biographical data and information on fields of expertise. In addition to standard information (name, position title, address and phone number), the questionnaire also asked how long the respondent had been at his/her organization, and (if this was three years or less) what his/her previous affiliation had been. Also requested was a list of the respondent's college degrees, with years and institutions. Graduate students were asked to indicate the degree currently being pursued, and their expected year of completion. Respondents were also asked what percentage of their time was devoted to research, teaching, administration, service and other activities. Finally, the professional status of respondents was tabulated by asking them to check off one of the following categories as most appropriate: (1) practicing professional; (2) inactive, retired; (3) retired but still active in research; (4) amateur; and (5) inactive in research due to administrative or teaching duties. The above information composed the biographical segment of the database.

Professional interests and areas of expertise were determined by having respondents check off up to 30 out of 66 specific areas of interest, and answer three free-format questions. Specific check-off categories were composed of the following:

- (1) Groups of organisms worked with (7 plant options, 11 animal options, plus "other")
- (2) Systematic techniques utilized (13 options, plus "other")
- (3) Ecological systems of interest (terrestrial, aquatic)
- (4) Habitat status types of interest (natural, disturbed, artificial, managed)
- (5) Ecological levels of interest (population, community, ecosystem)
- (6) Approach to research (basic, applied)
- (7) Ecological processes or activities of interest (20 options, plus "other").

Since the instructions read, "Please check the items below that apply to your ecological research or interests," some responses must be assumed to indicate general interests rather than specific areas of actual research expertise. A full list of all 66 option categories is included as Section 5.1. Free-format responses were solicited to the following queries:

- (1) "Please list any specific counties or regions of the state in which your research is concentrated; also list other states, counties, or geographical areas in which you do research or field work."
- (2) "What specific orders, families, genera, or other taxa are your specialty?"
- (3) "In what specific areas of ecology do you have expertise?"

Finally, respondents were asked to include a list of their publications, if possible. This combined information formed the expertise segment of the database.

Questionnaire forms were mailed to approximately 850 prospective respondents in early January, 1984. The mailing list was derived primarily from Illinois addresses on the membership lists of a number of professional societies. Forms were also sent to the heads or chairmen of college and university biology departments, museums, and appropriate government agencies in the state. The general criteria for inclusion in the directory were that the respondent should be a systematist or ecologist residing in Illinois or doing research in Illinois. Since it is certain that a number of individuals were omitted, and that some information is no longer correct, a revised questionnaire form is included as Appendix I for additions and updates. It is hoped that revisions to the directory will be published every second year.

As the questionnaires were returned, responses were entered into a relational database on the PRIME computer located at the Illinois Natural History Survey. Files were sorted alphabetically by name, and selected items were printed to produce the alphabetical directory listing that comprises the bulk (Section 4.2) of this publication. Responses to the 66 interest categories and to the three free-format questions were scanned to produce the categorical, geographic, taxonomic and ecological indices that comprise Section 5. The database (as updated to 1 December 1984) was also queried and cross-tabulated to summarize some of the responses, as described below.

3. Summary of Responses

3.1 Background Information

A total of 430 completed questionnaire forms were returned to the Illinois Natural History Survey by 1 December 1984. This represents a 51% response rate. An additional 41 forms were returned by the postal service as undeliverable. Almost all respondents (96.5%) listed Illinois as their address. Within the state, Champaign-Urbana and Chicago have the largest number of respondents (Table 1).

The institutional affiliations of respondents were tabulated by searching for key words in the first line of the address given. Half of the respondents (49.1%) are affiliated with colleges and universities (Table 2). The remainder are approximately evenly distributed among the Illinois Natural History Survey (14.2%), other state, federal and municipal agencies (14.0%), museums, arboreta, parks, gardens and zoos (11.6%), and others (11.1%).

Table 1. Principal Cities Within Illinois Listed as the Address of Responding Systematists and Ecologists

City	Number of Respondents	Percent of Illinois Respondents
Champaign-Urbana	111	26.7
Chicago	79	19.0
Carbondale	28	6.7
Springfield	25	6.0
Macomb	15	3.6
Charleston	14	3.4
Bloomington-Normal	11	2.7
Peoria	9	2.2
All Others	123	29.7
Total	415	100.0

Table 2. Institutional Affiliations of Responding Systematists and Ecologists

Institution	Number of Respondents	Percent of Respondents
Universities	182	42.3
Colleges	29	6.7
High Schools	3	0.7
Illinois Natural History Survey	61	14.2
Other Illinois State Agencies	30	7.0
U.S. Government Agencies & Labs	20	4.7
City and County Agencies	11	2.6
Museums	38	8.8
Botanical & Zoological Parks & Gardens	14	3.3
Private Industry	17	4.0
Conservation Organizations	6	1.4
Others and Unaffiliated	29	6.7
Total	430	100.0

As expected because of the high response level from universities, academics dominate the position title categories as well, with a total of 156 (36.3%) of all respondents being professors (Table 3). The next largest category is that of the research scientist, whose titles include "biologist", "ecologist", "research associate", etc. Curators were identified as a separate category, as were individuals with administrative roles. Note that the categories in Table 3 are not mutually exclusive. Most respondents (84.1%) consider themselves practicing professionals, while many (9.6%) are inactive in research because of administrative or teaching duties. Only 4.0% of the respondents are amateurs; this number is probably unrepresentative because many active amateurs may not have received questionnaires. Retirees make up only 2.3% of the respondents.

Table 3. Position Titles of Responding Systematists and Ecologists

Position Category*	Number of Respondents	Percent of 430 Respondents
(Full) Professor	83	19.3
Associate Professor	40	9.3
Assistant Professor	33	7.7
Graduate Student	22	5.1
Research or Technical Assistant	9	2.1
"Research Scientist"	93	21.6
Curator	35	8.1
"Administrator"	71	16.5
Other	48	11.2

^{*} NOTE: These position categories are not mutually exclusive; for example, a professor may also be a curator or a department head (administrator).

A total of 226 respondents (52.6%) sent a list of their publications. These lists were not entered into the computerized database, but their presence was noted for each respondent. Publication lists have been put on file at the Natural History Survey for future reference.

A total of 386 respondents (89.8%) reported having a bachelor's degree, 323 repondents (75.1%) have or are working on a master's degree, and 290 respondents (67.4%) have or are working on a doctoral degree. These proportions are indicative of the long period of training and post-graduate work generally required to be a praticing systematist or ecologist. Of the 1,013 college degrees reported by respondents, a total of 345, or 34.1%, were awarded by Illinois colleges and universities. The average year for a bachelor's degree was 1965, 1969 for a master's, and 1971 for a doctorate. On the average, respondents have been with their organizations since 1973, indicating a well experienced contingent of resident biologists.

The differences in time allocation among respondents was one of the most interesting results summarized from the biographical data. As shown in Table 4, the average respondent spends 41.2% of his/her time doing research, 22.7% teaching, 15.5% serving administrative functions, 10.3% devoted to service activities, and 10.3% spent on curatorial and other activities. Although it was not an option on the questionnaire, 17 respondents (4.0%) wrote in "curatorial" as a principal activity. Since the option was not presented to all respondents, curatorial activities are not summarized separately, but this category has been included on the revised questionnaire (Appendix).

Table 4. Average Time Commitments, According to Institutional Affiliation (Percent of time allocated to specified activity)

			Activity		
Institutional Category	Research	Teaching	Admin.	Service	Curatorial and Other
	% time	% time	% time	%time	% time
Academia (n = 201)	39	43	9	5	4
Natural History Survey (n = 57)	71	2	11	12	4
Other Government Agencies (n = 59)	19	5	34	20	22
Museums and Gardens $(n = 48)$	49	4	24	14	9
Others (n = 44)	31	6	16	14	33
Total (n = 409)	41.2%	22.7%	15.5%	10.3%	10.3%

Time commitments show clear differentiation on the basis of the institutional affiliation and position of the respondent. Systematists and ecologists with the Illinois Natural History Survey primarily do research (which takes up 71% of their time), as do those affiliated with museums and gardens (49% of their time; Table 4). Academicians have a lower allocation to research (39%), which is offset by teaching duties taking up 43% of their time. Personnel with government agencies spend much time engaged in administrative (34%) and service (20%) activities. Similar patterns are reflected in the distribution of time commitments among professional categories (Table 5). Professors do more teaching (52% time commitment) than research (34%), while graduate students and technical assistants do mostly research (64%). Research scientists (with a 56% time allocation) and curators (53%) also do mostly research, while curators also have a large allocation to administrative activities (20%), next only to administrators (52%). Service activities are significant mostly to research scientists (18% time commitment) and administrators (14%).

Table 5. Average Time Commitments, According to Position Type (Percent of time allocated to specified activity)

			Activity		
Position Category*	Research	Teaching	Admin.	Service	Curatorial and Other
	% time	% time	% time	% time	% time
Professors & Instructors (n = 157)	34	52	8	4	2
Students & Tech. Assistants (n = 34)	64	18	0	2	16
Research Scientists (n = 115)	56	1	11	18	14
Curators (n = 35)	53	9	20	9	9
Administrators (n = 78)	19	11	52	14	4
Others (n = 48)	17	1	30	21	31
Total (n = 409)	41.2%	22.7%	15.5%	10.3%	10.3%

^{*} NOTE: These position categories are not mutually exclusive; e.g. a research scientist may also be a curator or manager (administrator).

3.2 Areas of Expertise

Tables 6 to 8 summarize the areas of expertise checked off by responding systematists and ecologists; these categorical responses are fully indexed in Section 5.1. The most popular response was an ecological interest in natural systems (indicated by 290 or 67.4% of the respondents), followed by the use of gross morphology as a systematic technique (indicated by 210 or 48.8% of the respondents). Flowering plants (Table 6) appear to be the most popular organisms of study (38.8%), while among animals, insects were checked off most frequently (28.1%). The most popular systematic techniques (Table 7) are the use of gross morphology (48.8%), biogeography (42.3%), nomenclature (35.6%) and anatomy (30.0%). In terms of ecological interests (Table 8), more researchers appear to be interested in terrestrial systems than aquatic systems, and in the population or community levels of organization rather than the ecosystem level. More respondents take a basic approach (53.7%) than an applied approach (37.9%), which corresponds to the prevalence of academic affiliations. The ecological processes or activities of greatest interest are environmental assessments (35.6%), field census (34.2%), demography/life history (33.5%) and plant/animal interactions (30.5%).

Table 6. Experience of Responding Systematists and Ecologists with Different Organism Groups.

Organisms Worked With	Number of Respondents	Percent of 430 Respondents
Plants		
(1) flowering plants	167	38.8
(2) gymnosperms	49	11.4
(3) ferns and allies	49	11.4
(4) bryophytes	18	4.2
(5) fungi	31	7.2
(6) lichens	17	4.0
(7) algae	33	7.7
Animals		
(8) mammals	104	24.2
(9) birds	84	19.5
(10) reptiles and amphibians	65	15.1
(11) fishes	86	20.0
(12) insects	121	28.1
(13) crustaceans	37	8.6
(14) arachnids	13	3.0
(15) mollusks	37	8.6
(16) worms	20	4.7
(17) coelentrates	4	0.9
(18) protozoans	10	2.3
(19) Other	19	4.4

 $\textbf{Table 7.} \ Different \ Systematic \ Techniques \ Employed \ by \ Respondents.$

Systematic Technique	Number of Respondents	Percent of 430 Respondents
(20) anatomy	129	30.0
(21) biogeography	182	42.3
(22) chromatography/		
electrophoresis	46	10.7
(23) cladistics	60	14.0
(24) cytology/chromosomes	42	9.8
(25) embryology	9	2.1
(26) genetics/breeding	48	11.2
(27) gross morphology	210	48.8
(28) nomenclature	153	35.6
(29) palynology	11	2.6
(30) phenetics	44	10.2
(31) reproductive biology	84	19.5
(32) serology	5	1.2
(33) other	42	9.8

Table 8. Prevalence of Different Ecological Interests Among Respondents

Field of Research or Interest	Number of Respondents	Percent of 430 Respondents
System and Level		
(34) terrestrial population	174	40.5
(35) terrestrial community	168	39.1
(36) terrestrial ecosystem	107	24.9
(37) aquatic population	108	25.1
(38) aquatic community	109	25.3
(39) aquatic ecosystem	86	20.0
Approach		
(40) basic	231	53.7
(41) applied	163	37.9
System Type		
(42) natural	290	67.4
(43) disturbed	190	44.2
(44) artificial	73	17.0
(45) managed	128	29.8
Ecological Process or		
Research Activity		
(46) behavioral ecology	116	27.0
(47) community classification	89	20.7
(48) demography/life history	144	33.5
(49) energy budgets	25	5.8
(50) environmental assessments	153	35.6
(51) evolution	117	27.2
(52) field census	147	34.2
(53) human ecology	17	4.0
(54) landscape ecology	46	10.7
(55) models	47	10.9
(56) nutrients	39	9.1
(57) physiological ecology	63	14.7
(58) plant/animal interactions	131	30.5
(59) plant/plant interactions	56	13.0
(60) plant/soil relations	52	12.1
(61) reclamation	47	10.9
(62) resource management	98	22.8
(63) succession	92	21.4
(64) toxicology	33	7.7
(65) weeds	39	9.1
(66) other	45	10.5

Most respondents indicated that they worked with only one of the 19 organism groups listed on the questionnaire (median response of 1.15 groups, Fig. 1). The modal number of systematic techniques used was three (Fig. 2), but a median response of 1.79 groups was obtained because of the large number (120) of respondents who do not utilize systematics. Respondents likewise tended to check off three or four ecological interests (Fig. 3), while the median response was 2.85 groups, in part due to the 58 respondents who indicated no ecological interests. These frequency distributions suggest that most practicing biologists utilize a variety of systematic techniques or have a range of ecological interests, but (especially botanists) tend to restrict themselves to one group of organisms or another.

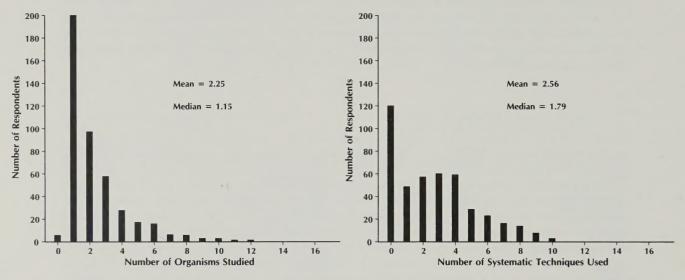


Figure 1. Frequency distribution of the number of organism groups studied.

Figure 2. Frequency distribution of the number of systematic techniques used.

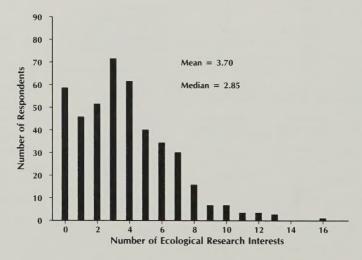


Figure 3. Frequency distribution of the number of ecological research interests.

The number of respondents having individual expertise in several fields provides an insight into the prevalance of more specific areas of experience and research among practicing biologists. For example, 38 respondents (8.8%) study both flowering plants and insects, while in a more general context, 92 respondents (21.4%) expressed an interest in both plants and animals. Fifty-seven respondents (13.3%) study both birds and mammals, and 72 respondents (16.7%) are interested in both terrestrial and aquatic ecology. A total of 86 respondents (20.0%) take both a basic and applied appproach to their ecological research. There were 112 applied, terrestrial ecologists who responded, in contrast to 81 applied, aquatic ecologists. Two-hundred and ten terrestrial ecologists (80.8% of them) expressed an interest in natural systems, while 132 aquatic ecologists (84.1% of them) expressed a similar interest.

Further comparisons were made between plant biologists and animal biologists. In terms of the utilization of systematic techniques, Table 9 indicates that botanical systematists and zoological systematists make remarkably equal use of biogeography, chromatography/electrophoresis and genetics/breeding. Plant biologists are more likely to use cytology/ chromosomes, nomenclature and (of course) palynology, while anatomy and cladistics are more popular among animal biologists. In terms of ecological interests (Table 10), plant biologists are more likely to be interested in community classification, landscape ecology, nutrients, plant/plant and plant/soil interactions, reclamation, succession and weeds. Animal ecologists tend to prefer behavioral ecology, demography/life history, evolution and field census work. Many differences in interest are due to fundamental differences between plants and animals, while others (such as in evolution) are more difficult to explain.

Table 9. Comparison of Systematic Techniques Used by Plant Biologists and Animal Biologists

Table 10.	Comparison	of Ecologic	cal Interests
of Plant	Biologists a	and Animal	Biologists

Technique	Plant Biologists	Animal Biologists
	% of 206	% of 309
(20) anatomy	21.8	33.3
(21) biogeography	42.7	42.7
(22) chromatography/		
electrophoresis	10.2	10.4
(23) cladistics	5.8	17.2
(24) cytology/chromosomes	14.1	5.8
(25) embryology	1.0	2.3
(26) genetics/breeding	11.2	11.3
(27) gross morphology	49.5	46.0
(28) nomenclature	37.4	31.1
(29) palynology	5.3	0.0
(30) phenetics	7.8	10.4
(31) reproductive biology	18.0	20.7
(32) serology	0.5	1.6
(33) other	9.2	8.1

NOTE: This tabulation includes 92 respondents who checked off both plants and animals.

Field of Research or Interest	Plant Biologists	Animal Biologists
	% of 206	% of 309
(46) behavioral ecology	14.1	37.2
(47) community classification	29.1	17.5
(48) demography/life history	25.2	40.4
(49) energy budgets	5.8	5.5
(50) environmental assessments	36.9	38.5
(51) evolution	20.9	31.4
(52) field census	33.0	40.1
(53) human ecology	2.4	5.2
(54) landscape ecology	14.6	10.4
(55) models	9.7	11.7
(56) nutrients	12.6	7.8
(57) physiological ecology	15.5	14.0
(58) plant/animal interactions	36.4	35.6
(59) plant/plant interactions	26.7	8.4
(60) plant/soil relations	23.3	7.8
(61) reclamation	15.0	9.1
(62) resource management	24.8	25.9
(63) succession	34.0	16.2
(64) toxicology	7.3	8.7
(65) weeds	16.0	6.8
(66) other	9.2	11.3

NOTE: This tabulation includes 92 respondents who checked off both plants and animals.

Respondents with ecological interests were divided into terrestrial biologists and aquatic biologists (Table 11). Terrestrial biologists have stronger interests in behavioral ecology, demography/life history, landscape ecology, and plant/animal, plant/plant or plant/soil interactions. Aquatic biologists, on the other hand, have greater interest in environmental assessment, nutrients and toxicology, reflecting widespread societal concerns regarding water pollution. Similar differences were observed between basic researchers and applied researchers (Table 12), although both groups take an equal interest in community classification and plant/animal interactions. Basic researchers have pronounced interests in behavioral ecology, demography/life history and evolution. Applied researchers were more likely to check off environmental assessment, human ecology, landscape ecology, models, nutrients, resource management and weeds as areas of interest or research.

Table 11. Comparison of Ecological Interests of Terrestrial Biologists and Aquatic Biologists

	Terrestrial	Aquatic
Field of Research or Interest	Biologists	Biologists
	% of 260	% of 157
(46) behavioral ecology	32.7	24.2
(47) community classification	24.6	29.3
(48) demography/life history	43.5	32.5
(49) energy budgets	6.9	9.6
(50) environmental assessments	38.1	54.8
(51) evolution	28.8	24.2
(52) field census	41.9	36.9
(53) human ecology	5.0	3.8
(54) landscape ecology	16.2	8.3
(55) models	13.5	12.7
(56) nutrients	9.6	27.4
(57) physiological ecology	16.5	17.8
(58) plant/animal interactions	40.8	27.4
(59) plant/plant interactions	20.4	11.5
(60) plant/soil relations	19.2	7.6
(61) reclamation	14.6	12.1
(62) resource management	27.3	29.9
(63) succession	29.6	23.6
(64) toxicology	5.8	12.7
(65) weeds	12.3	7.6
(66) other	10.0	10.2

NOTE: This tabulation includes 72 respondents who checked off both terrestrial and aquatic interests,

Table 12. Comparison of Ecological Interests of "Basic" Researchers and "Applied" Researchers

Field of Research or Interest	Basic Researchers	Applied Researchers
	% of 231	% of 163
(46) behavioral ecology	38.1	25.2
(47) community classification	26.4	26.4
(48) demography/life history	45.9	33.7
(49) energy budgets	6.9	10.4
(50) environmental assessments	38.1	60.1
(51) evolution	41.1	14.7
(52) field census	38.1	42.9
(53) human ecology	3.0	6.1
(54) landscape ecology	12.1	19.0
(55) models	11.3	19.0
(56) nutrients	9.5	16.6
(57) physiological ecology	20.3	17.8
(58) plant/animal interactions	39.4	38.7
(59) plant/plant interactions	16.0	17.8
(60) plant/soil relations	14.7	17.2
(61) reclamation	10.4	18.4
(62) resource management	18.6	42.9
(63) succession	28.1	30.7
(64) toxicology	7.4	15.3
(65) weeds	9.1	12.9
(66) other	14.3	11.7

NOTE: This tabulation includes 86 respondents who checked off both basic and applied approaches.

Answers to the three free-format questions can also be queried, tabulated and cross-tabulated, but specific keywords have to be specified in such searches. The large number of different places, taxa and specialties listed by respondents prevents any meaningful summarization here. The index to these free-format responses (Section 5.2) contains geographic (Section 5.2.1), taxonomic (Section 5.2.2) and ecological (Section 5.2.3) segments. The number and identity of respondents who cited various key words can be obtained from this index and by referring back to the alphabetical listing of respondents as necessary. For example, 27 respondents included "Indiana" in their list of research locations, while 15 included the word "tropics" or "tropical". Seven respondents cited "Poaceae" (grasses) as a taxonomic specialty, while ten respondents specialize in "Diptera" (flies). The term "natural area" was referred to by 19 respondents, and "monitoring" was cited by three respondents. As an example of a more specific query, it turns out that only two respondents listed both "Mississippi River" and "fish" in their geographical and ecological responses. The names, addresses or phone numbers of these individuals can be readily identified. Statistical summaries and cross-tabulations of these responses would not be as meaningful as those made above for the categorized groups, because there is no means of ensuring that respondents used the same term for similar interests.

4. The Directory

4.1 Key to Numerical Codes

The alphabetical listing of individual responses uses the following numerical codes to indicate specific areas of interest and expertise, as checked off by the respondents:

Organisms Worked With:

- (1) flowering plants
- (2) gymnosperms
- (3) ferns and fern allies
- (4) bryophytes
- (5) fungi
- (6) lichens
- (7) algae
- (8) mammals
- (9) birds

Systematic Techniques Utilized:

- (20) anatomy
- (21) biogeography
- (22) chromatography/electrophoresis
- (23) cladistics
- (24) cytology/chromosomes
- (25) embryology
- (26) genetics/breeding

Ecological Research or Interests:

System and Level

- (34) terrestrial population
- (35) terrestrial community
- (36) terrestrial ecosystem
- (37) aquatic population
- (38) aquatic community
- (39) aquatic ecosystem

Approach

- (40) basic
- (41) applied

System Type

- (42) natural
- (43) disturbed
- (44) artificial
- (45) managed

- (10) reptiles and amphibians
- (11) fishes
- (12) insects
- (13) crustaceans
- (14) arachnids
- (15) mollusks
- (16) worms
- (18) protozoans
- (19) other
- (27) gross morphology
- (28) nomenclature
- (29) palynology
- (30) phenetics
- (31) reproductive biology
- (32) serology
- (33) other

Process or Activity

- (46) behavioral ecology
- (47) community classification
- (48) demography/life history
- (49) energy budgets
- (50) environmental assessment
- (51) evolution
- (52) field census
- (53) human
- (54) landscape ecology
- (55) models
- (56) nutrients
- (57) physiological ecology
- (58) plant/animal interactions
- (59) plant/plant interactions
- (60) plant/soil relations
- (61) reclamation
- (62) resource management
- (63) succession
- (64) toxicology
- (65) weeds
- (66) other

4.2 Alphabetical Listing

#1

Mr. David G. Abel

Professor Shimer College Department of Natural Science 438 N. Sheridan Rd., P.O. Box A-500 Waukegan, IL 60085

M.S. Western Kentucky University 1972 Phone (312) 623-8400

#2

Dr. Ronald G. Alderfer

Assoc. V.P. & Midwest Reg. Manager Environmental Science & Engin. Inc. 11665 Lilburn Park Road St. Louis, MO 63146

Ph.D. Washington University 1969 Phone (314) 567-4600

#3

Dr. David C. Allison

Professor & Chairman Monmouth College Department of Biology Monmouth, IL 61462

Ph.D. Pennsylvania State University 1960 Phone (309) 457-2021

#4

Mr. Bruce H. Ambuel

Research Assistant University of Illinois Department of Psychology 603 E. Daniel St. Champaign, IL 61820

M.S. University of Wisconsin-Madison 1981 Phone (217) 333-0041

#5

Mr. Michael Wayne Ander

Ecologist Dames & Moore Consultants Environmental Division 1550 Northwest Highway Park Ridge, IL 60068

M.S. Northern Illinois University 1970 Phone (312) 297-6120

#6

Dr. Robert Arthur Andersen

Assistant Professor De Paul University Department of Biological Sciences 1036 Belden Avenue Chicago, IL 60614

Ph.D. University of Arkansas 1981 Phone (312) 321-8171 Organisms Worked With: 11 12 13 16

Systematic Techniques: 27 Ecological Interests: 37 39 40 42

50 Geographical Areas:

Organism Specialties: Oligochaeta, Tubificidae and Naididae

Ecological Expertise: environmental assessment and impact evaluation

Organisms Worked With: 1 Systematic Techniques: 21 27

Ecological Interests: 36 39 41 42 43 45

49 50 54 57 61 62 64

Geographical Areas: Missouri, Arkansas, Texas, Georgia, North

Carolina, Virginia, Florida Organism Specialties:

Ecological Expertise: environmental regulation of photosynthesis in plant communities; reclamation and reforestation techniques; environmental assessment and specific mitigation techniques

Organisms Worked With: 1 7 9 Systematic Techniques: 24 26 Ecological Interests: 35 38 41 42 58 59 63

Geographical Areas: Henderson and Warren Counties, Illinois

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 8 9 Systematic Techniques: Ecological Interests: 34 35 46 48 52 53

Geographical Areas:

Organism Specialties:

Ecological Expertise: avian community ecology and biogeography; human ecology and reproductive behavior

Organisms Worked With: 12 Systematic Techniques: 20 21 27 28 Ecological Interests: 38 41 42 43 50 52 61

Geographical Areas: northern Illinois, Wisconsin, Missouri

Organism Specialties: Diptera - Chironomidae

Ecological Expertise: Midwest lakes and streams

Organisms Worked With: 7 18

Systematic Techniques: 21 22 23 27 28 30 31

Ecological Interests: 37 38 40 42 48 58 63 Geographical Areas: northern Illinois

Organism Specialties: Chrysophyceae - Synura, Mallomonas, Ochromonas,

Epipyxis, etc.

Ecological Expertise: freshwater algae, especially Chrysophyceae

Dr. Richard V. Anderson

Associate Professor Western Illinois University Department of Biological Sciences Macomb, IL 61455

Ph.D. Colorado State University 1978 Phone (309) 298-1553

#8

Dr. Roger C. Anderson

Professor Illinois State University Department of Biological Sciences Normal, IL 61761

Ph.D. University of Wisconsin-Madison 1968 Phone (309) 438-2653

#9

Dr. Ted R. Anderson

Associate Professor & Dean McKendree College 701 College Lebanon, IL 62254

Ph.D. St. Louis University 1973 Phone (618) 537-4481

#10

Mr. William L. Anderson

Conservation Resource Proj. Manager Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Dr. Champaign, IL 61820

M.A. Southern Illinois University 1964 Phone (217) 333-8041

#11

Dr. Paul L. Angermeier

Research Associate University of Illinois Dept. of Ecology, Ethology & Evolution 606 E. Healey St. Champaign, IL 61820

Ph.D. University of Illinois 1983 Phone (217) 333-2235

#12

Dr. Thomas M. Antonio

Taxonomist Chicago Botanic Garden Herbarium P.O. Box 400 - Lake Cook Road Glencoe, IL 60022

Ph.D. University of Oklahoma 1982 Phone (312) 835-5440 Organisms Worked With: 12 13 15 16 17 19

Systematic Techniques: 27 Ecological Interests: 37 38 39 42 47 49 56 58

Geographical Areas: west central Illinois aquatic habitats, with

emphasis on Mississippi and Illinois Rivers

Organism Specialties: aquatic invertebrates in general; free living

Nematoda

Ecological Expertise: invertebrate ecology, with emphasis on effects of

invertebrates on nutrient cycling and energy flow

Organisms Worked With: 1 Systematic Techniques: 31 Ecological Interests: 35

47 48 52 58 60 61 63

Geographical Areas: Midwest; all parts of Illinois Organism Specialties: Primulaceae - Trientalis borealis

Ecological Expertise: community ecology of grasslands and forests; presettlement vegetation; fire ecology; strip mine reclamation

Organisms Worked With: 9 Systematic Techniques: 21 31 Ecological Interests: 34 35 40 42 43 46 48 51 52

Geographical Areas: Monroe County, Illinois; St. Louis and St.

Charles Counties, Missouri; Poland Organism Specialties: Passer

Ecological Expertise: reproductive strategies of birds; avian community ecology; avian population ecology

Organisms Worked With: 9

Systematic Techniques:

Ecological Interests: 34 35 36 37 38 39 40 42 43 44 45

49 52 57 58 62 64 Geographical Areas: Illinois, statewide

Organism Specialties: Galliformes, Anseriformes

Ecological Expertise: population dynamics, toxicology, nutrition, physiology

Organisms Worked With: 11

Systematic Techniques:

Ecological Interests: 37 38 39 40 42 43

46 62

Geographical Areas: central southern Illinois; Panama

Organism Specialties:

Ecological Expertise: community dynamics of aquatic systems, especially streams; impacts of disturbance on community organization among fishes

Organisms Worked With: 1 2 3 Systematic Techniques: 27 28 31

Ecological Interests:

Geographical Areas:

Organism Specialties: Central American Monimiaceae

Ecological Expertise: cultivated plants of the Chicago region; native Illinois plants; horticulturally important aquatics

Mr. Steven Irwin Apfelbaum Research and Consulting Ecologist Applied Ecological Services 516 Berkley Drive Arlington Heights, IL 60004

M.S. University of Illinois-U.C. 1978 Phone (608) 897-8547

#14

Dr. James E. Appleby Entomologist Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Drive Champaign, IL 61820

Phone (217) 333-6250

#15

Mrs. Patricia Kay Armstrong Coord. Youth Prog. & Prairie Proj. Morton Arboretum Education Department Route 53 Lisle, IL 60532

M.S. University of Chicago 1968 Phone (312) 968-0074

#16

Dr. Stevan J. Arnold Associate Professor University of Chicago Department of Biology 1103 E. 57th Street Chicago, IL 60637

Ph.D. University of Michigan 1972 Phone (312) 962-3402

#17

Dr. Charles B. Arzeni Professor Eastern Illinois University Department of Botany

Charleston, IL 61920

Phone (217) 581-3728

Ph.D. University of Michigan 1952

#18

Dr. William Clark Ashby

Professor Southern Illinois University Department of Botany Carbondale, IL 62901

Ph.D. University of Chicago 1950 Phone (618) 536-2331 Organisms Worked With: 1 5 6 9

Systematic Techniques:

Ecological Interests: 34 35 36 40 41 42 43

47 48 50 52 54 56 60 61 62 63 64 65 66

Geographical Areas: Cook, DuPage, Lake, McHenry Counties, Illinois; Appalachian, Great Lakes, southeast, desert southwest, intermountain and Pacific Coast states; Hawaiian Islands; eastern Mexico; central Canada Organism Specialties:

Ecological Expertise: ecological assessment; design and implementation of long-term ecological monitoring programs

Organisms Worked With: 12 Systematic Techniques: Ecological Interests: 40 41 48 54

Geographical Areas: Pope, Champaign and DuPage Counties, Illinois

Organism Specialties:

Ecological Expertise: life histories of insects attacking landscape and forest trees.

Organisms Worked With: 1 2 3 4 6 8 9 10 12 13 14

Systematic Techniques: 21

Ecological Interests: 35 38 40 42 43 45 47 50 52 54 63

Geographical Areas: Shawnee Hills, southern Illinois; Sauk Hills (driftless area), Wisconsin; mountain areas of the world Organism Specialties: bryophytes, lichens; prairie plants, vascular plants at timberline and above; aquatic invertebrates; amphibians Ecological Expertise: prairie; saxicolous plants; timberline and alpine ecology

Organisms Worked With: 10 Systematic Techniques: 21 26 27 31 Ecological Interests: 34 37 40 42 46 48 51 52 57

Geographical Areas: northern California; Europe

Organism Specialties: Reptilia: Colubridae - Thamnophis; Urodeles: Salamandridae, Plethodontidae, Ambysatomatidae Ecological Expertise: demography and behavioral ecology of reptiles and amphibians

Organisms Worked With: 1 4 6 Systematic Techniques: 27 Ecological Interests: 42

Geographical Areas: Illinois; west central Indiana; Michigan; Central America; South America; Taiwan

Organism Specialties: Bryophyta

Ecological Expertise:

Organisms Worked With: 1 5 Systematic Techniques:

Ecological Interests: 36 42 43 44 45

50 56 57 59 60 61 63 65

Geographical Areas: Saline, Perry, Williamson, Randolph, Hardin, Union, Jackson, Pope and Wabash Counties, Illinois; Indiana; Maryland; Wisconsin

Organism Specialties:

Ecological Expertise: forest ecology; physiological ecology; tree growth; strip mine reclamation; ecological genetics

Dr. Yousef Hanna Atallah Director Environmental Sciences Velsicol Chemical Corporation Research Division 341 E. Ohio Street Chicago, IL 60611

Ph.D. Louisiana State University 1964 Phone (312) 670-4830

#20

Dr. Carol K. Augspurger Associate Professor University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Ave. Urbana, IL 61801

Ph.D. University of Michigan 1978 Phone (217) 333-1298

Dr. Ralph W. Axtell Professor

Southern Illinois University Department of Biological Sciences Edwardsville, IL 62026

Ph.D. University of Texas-Austin 1958

Phone (618) 692-3405

Dr. David Bardack

Professor University of Illinois at Chicago Department of Biological Sciences Chicago, IL 60680

Ph.D. University of Kansas 1963 Phone (312) 996-4578

Dr. Kerry A. Barringer Visiting Assistant Curator Field Museum of Natural History Department of Botany Roosevelt Road at Lake Shore Drive Chicago, IL 60605-2496

Ph.D. University of Connecticut 1981 Phone (312) 922-9410

Dr. George O. Batzli Professor & Head University of Illinois Dept. of Ecology, Ethology & Evolution 515 Morrill Hall, 505 S. Goodwin Ave. Urbana, IL 61801

Ph.D. University of California-Berkeley 1969 Phone (217) 333-7801

Organisms Worked With: 8 Systematic Techniques: Ecological Interests: 41 43 44 50 55 64

Geographical Areas:

Organism Specialties:

Ecological Expertise: environmental toxicology; fate of xenobiotics in the environment

Organisms Worked With: 1 Systematic Techniques: Ecological Interests: 34 35 40 42

48 58 59

Geographical Areas: Neotropics, especially Costa Rica and Panama

Organism Specialties:

Ecological Expertise: reproductive biology (phenology, pollination, seed predation, dispersal, especially wind dispersal, germination, seedling survival & growth); damping-off disease of seedlings; demography; monocarpy

Organisms Worked With: 10 Systematic Techniques: 20 21 22 27 28 30 **Ecological Interests:**

Geographical Areas: Madison, Calhoun, Jersey, St. Clair, Pike, Monroe & Randolph Cos., Illinois; Lincoln, Pike, Ralls, St. Charles, Jefferson & Warren Cos., Missouri; Arizona; New Mexico; Texas; northern Mexico Organism Specialties: Squamata - Iquanidae, Holbrookia, Crotaphytus, Sceloporus, etc.; Serpentes - Lampropeltis, Carphophis, Crotalus; Anura - Hylidae, Pseudacris Ecological Expertise:

Organisms Worked With: 11 Systematic Techniques: 20 21 23 Ecological Interests:

Geographical Areas: Will and Grundy Counties, Illinois (Mason Creek Pennsylvanian fauna); Kansas, Texas; Northwest Territories, Canada; Organism Specialties: fish

Ecological Expertise:

Organisms Worked With: 1 Systematic Techniques: 20 21 27 28 **Ecological Interests:**

Geographical Areas: Costa Rica, lowland South America

Organism Specialties: Scrophulariaceae, Aristolochiaceae, Central American Orchidaceae, Costa Rican Myristicaceae and Annonaceae Ecological Expertise:

Organisms Worked With: 1 8 12 Systematic Techniques: Ecological Interests: 34 35 40 42 43 57 58 66

Geographical Areas: Champaign County, Illinois; northern Alaska;

New Zealand; Norway Organism Specialties:

Ecological Expertise: nutritional ecology of herbivores; population dynamics of animals; Arctic ecology; small mammal communities

Mr. Donald L. Baumgartner

Graduate Student University of Illinois-Chicago Department of Biological Sciences P.O. Box 4348 Chicago, IL 60680

M.S. University of Illinois at Chicago 1984 Phone (312) 996-5440

#26

Dr. Peter B. Bayley

Assistant Professional Scientist Illinois Natural History Survey Section of Aquatic Biology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Dalhousie University 1982 Phone (217) 333-6889

#27

Dr. Fakhri A. Bazzaz

Professor Harvard University Dept. of Organismic & Evolutionary Biology 16 Divinity Avenue Cambridge, MA 02138

Ph.D. University of Illinois 1963 Phone (617) 495-0916

#28

Dr. Andrew J. Beattie

Professor

Northwestern University Dept. of Ecology & Evolutionary Biology Evanston, IL 60201

Phone (312) 492-5619

#29

Mr. Carl N. Becker Section Manager Illinois Department of Conservation Natural Heritage Section 600 N. Grand Avenue West Springfield, IL 62706

M.S. Eastern Michigan University 1973 Phone (217) 785-8774

#30

Barbara L. Benner

Post-Doctoral Fellow Indiana University Department of Biology Jordan Hall Bloomington, IN 47405

Ph.D. University of Illinois-U.C. 1985 Phone (812) 335-7804 Organisms Worked With: 12 Systematic Techniques: 21 27 Ecological Interests: 34 35 42 43 46 48 52

Geographical Areas: Cook County, Illinois; South America, especially

Peru

Organism Specialties: Diptera - Calliphoridae, Mesembrinellidae,

Culicidae

Ecological Expertise: biogeography and altitudinal distribution of

Calliphoridae

Organisms Worked With: 11 Systematic Techniques:

Ecological Interests: 37 38 39 41 42 44 45

49 55 62 66

Geographical Areas: state and public impoundments throughout Illinois; Amazon River in Brazil and Peru

Organism Specialties:

Ecological Expertise: fish population dynamics and production; trophic dynamics and community ecology

Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 36 43

48 55 56 57 59 62 63 65

Geographical Areas: Champaign County, Illinois; Massachusetts

Organism Specialties:

Ecological Expertise: physiological, population and community ecology

of plants

Organisms Worked With: 1 12 Systematic Techniques:

Ecological Interests: 34 35 40 42 46 48 51 58

Geographical Areas: Colorado; England; Australia

Organism Specialties:

Ecological Expertise: pollination; seed dispersal; ant-plant

interactions

Organisms Worked With: 8 9 10 15

Systematic Techniques:

Ecological Interests: 34 35 36 41

50 52 54 62

Geographical Areas: north central Illinois; Wisconsin; east central Kansas; western Nebraska; southeast California; Connecticut and north central Massachusetts

Organism Specialties:

Ecological Expertise: avian ecology; small mammal ecology; endangered species (birds, mammals, amphibians and reptiles)

Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 40 42 43

48 56 57 58 59 60 63 65

Geographical Areas: central Illinois

Organism Specialties:

Ecological Expertise: responses of plants to variations in resource availability, and the effects of such variation (spatial and temporal) on plant competition

Dr. May R. Berenbaum Associate Professor University of Illinois Department of Entomology 320 Morrill Hall, 505 S. Goodwin Ave. Urbana, IL 61801

Ph.D. Cornell University 1980 Phone (217) 333-7784

#32

Mr. William Allen Bergman Principal Civil Engineer Metropolitan Sanitary District Engineering Department 100 E. Erie Chicago, IL 60660

M.S. Illinois Institute of Technology 1981 Phone (312) 751-5818

#33

Dr. James F. Berry Assistant Professor Elmhurst College Department of Biology 190 Prospect Elmhurst, IL 60126

Ph.D. University of Utah 1978 Phone (312) 279-4100 Ext. 200

#34

Dr. Gregory R. Biddinger Environmental Toxicologist Illinois E.P.A. Office of Chemical Safety 2200 Churchill Road Springfield, IL 62706

Ph.D. Indiana State University 1981

Phone (217) 785-0830

#35

Mr. Brian Jay Bielema

1100 14th Avenue Fulton, IL 61252

M.S. Western Illinois University 1973 Phone (309) 887-4255

#36

Mr. J. Paul Biggers
Chief of Environment
Illinois Dept. of Transportation
Bureau of Location and Environment
2300 S. Dirksen Parkway
Springfield, IL 62764

M.S. So. Illinois Univ.-Carbondale 1976 Phone (217) 782-4770 Organisms Worked With: 1 12 Systematic Techniques: 21 22 26 33 Ecological Interests: 34 35 40 42 43 46 51 58 64

Geographical Areas: Champaign County, Illinois

Organism Specialties: Apiaceae; Insecta - Papilionidae, Oecophoridae

Ecological Expertise: chemical aspects of plant-insect interaction

Organisms Worked With: 12 Systematic Techniques: 26 27 33 Ecological Interests: 39 42 45 49 50 54 61

Geographical Areas: Cook, DuPage and Lake Counties, Illinois; Indiana: Michigan; Wisconsin; Minnesota; Florida

Organism Specialties: Lepidoptera

Ecological Expertise: energy balances, aquatic ecology, watershed planning

Organisms Worked With: 10

Systematic Techniques: 20 21 23 27 28 30 31 Ecological Interests: 34 35 37 38 40

46 48 51 55 57 reas: southern Cook County, I

Geographical Areas: southern Cook County, Illinois; southwestern Illinois; eastern states; central states; southwestern states; Mexico;

Central America; South America

Organism Specialties: Testudines - Kinosternidae: Kinosternon and Sternotherus; Squamata - Colubridae: Thamnophis, Opheodrys and Storeria Ecological Expertise: population ecology and physiological ecology, specifically the relationships between environmental parameters and morphological and physiological specializations

Organisms Worked With: 11 13 Systematic Techniques: Ecological Interests: 37 38

50 64

Geographical Areas:

Organism Specialties: organisms used in aquatic bioassays for acute or chronic toxicity testing: Pimephales promelas, Orysias latipes, Daphnia magna, D. pulex, Ceriodaphnia reticulata

Ecological Expertise: population and community level effects of toxic effluents or single compounds, based on synoptic surveys of point sources and laboratory bioassays (single and multispecies)

Organisms Worked With: 1 8 9 10

Systematic Techniques: 21

Ecological Interests: 34 35 36 40 42

46 48 52 58 63

Geographical Areas: Whiteside, Carroll and Jo Daviess Counties,

Illinois; Clinton, Jackson and Jones Counties, Iowa Organism Specialties: rattlesnakes - Crotalus, Sistrurus;

also Agkistrodon

Ecological Expertise: Massasauga and timber rattlesnake ecology

Organisms Worked With: 1 9 Systematic Techniques:

Ecological Interests: 34 35 41 42 43

47 50 52

Geographical Areas: Jackson County, Illinois

Organism Specialties:

Ecological Expertise: vegetation analysis and description; nesting ecology of white-eyed vireos; breeding bird surveys

Dr. Dale E. Birkenholz

Professor

Illinois State University

Department of Biological Sciences

Normal, IL 61761

Ph.D. University of Florida 1962

Phone (309) 438-5567

#38

Mr. Richard Ernest Bodmer

Research Assistant Chicago Zoological Society

Research Department Brookfield, IL 60513

M.S. University of Illinois 1984

Phone (312) 485-0263

#39

Mr. H. David Bohlen

Assistant Curator of Zoology Illinois State Museum Zoology Department

Spring & Edwards Springfield, IL 62706

B.S. Eastern Illinois University 1966

Phone (217) 782-6697

Mr. John K. Bouseman

Assistant Entomologist Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Drive

Champaign, IL 61820

M.S. University of Illinois-U.C. 1962

Phone (217) 333-2668

#41

Mr. Marlin L. Bowles

Research Associate

The Morton Arboretum

Lisle, IL 60532

M.S. University of Illinois 1972

Phone (312) 968-0074

#42

Dr. Raymond H. Brand

Professor Wheaton College

Biology Department

Wheaton, IL 60187

Ph.D. University of Michigan 1955

Phone (312) 260-5008

Organisms Worked With: 8 9

Systematic Techniques:

Ecological Interests: 34 42 43

Geographical Areas: central Illinois; northern Ontario, Canada

Organism Specialties:

Ecological Expertise: bird and small mammal censusing

Organisms Worked With: 8

Systematic Techniques: 26 31

Ecological Interests: 34 35 40 41 42 44 46 48 57 58

Geographical Areas: Brookfield Zoo, Brookfield, Illinois; Epulu,

Zaire; Iquitos, Peru

Organism Specialties: tropical forest ungulates

Ecological Expertise: behavioral ecology

Organisms Worked With: 9

Systematic Techniques: 21 27

Ecological Interests: 34 40 42 43 44 45

48 52

Geographical Areas: Illinois

Organism Specialties:

Ecological Expertise: birds and their habitats

Organisms Worked With: 1 12

Systematic Techniques: 20 21 23 27 28 30 31

Ecological Interests: 34 35 40 42 43

46 48 51 58

Geographical Areas: Carroll, Whiteside, Henderson, Mason, Kankakee, Will, Effingham, Fayette, Marion, Union and Pope Counties, Illinois;

Brazil; Paraguay; Uruguay; Venezuela; West Indies; Mexico

Organism Specialties: Coleoptera - Cerambycidae, Chrysomelidae,

Meloidae, Rhipiphoridae; Hymenoptera - Apoidea

Ecological Expertise: pollination ecology

Organisms Worked With: 1

Systematic Techniques: 21 31

Ecological Interests: 34 35 42

48 58 62

Geographical Areas: tall-grass prairie region

Organism Specialties: Orchidaceae; endangered plant taxa

Ecological Expertise: natural area management and inventory:

distribution and management of endangered or threatened plant species

Organisms Worked With: 1 2 7 8 9 12

Systematic Techniques: 20 21 27 31

Ecological Interests: 34 40 41 42 45

46 50 52 58 62 63

Geographical Areas: DuPage and Cook Counties, Illinois

Organism Specialties: Collembola; Peromyscus

Ecological Expertise: terrestrial ecology; soil arthropod ecology;

mammalian and avian ecology; applied aspects of wastewater management

Dr. Ronald A. Brandon

Professor & Chairman Southern Illinois University Department of Zoology Carbondale, IL 62901

Ph.D. University of Illinois-U.C. 1962

Phone (618) 536-2314

#44

Mr. Charles A. Bridges

502 W. Main St., Apt. 120 Urbana, IL 61801

M.S. University of Illinois Phone (217) 384-5778

#45

Dr. Allison R. Brigham

Associate Professional Scientist Illinois Natural History Survey Section of Aquatic Biology 607 E. Peabody Drive Champaign, IL 61820

Phone (217) 333-0954

#46

Dr. Warren U. Brigham

Professional Scientist & Manager Illinois Natural History Survey Section of Faunistics 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1972 Phone (217) 333-0954

#47

Mr. David Francis Brinker

Staff Ecologist Dames & Moore 1550 Northwest Highway Park Ridge, IL 60068

B.S. Univ. of Wisconsin-Green Bay 1977 Phone (312) 297-6120

#48

Mr. Bruce W. Brown

Assistant Supportive Scientist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1984 Phone (217) 333-6857 Organisms Worked With: 10

Systematic Techniques: 20 22 26 27 28 31

Ecological Interests: 34 37 40 42 48 51 52

Geographical Areas: southern Illinois; Ozarks; southern Appalachians;

Mexico

Organism Specialties: Caudata; Plethodontidae; Ambystomatidae; Salamandridae; Sirenidae - Ambystoma, Gyrinophilus, Notophthalmus, Pseudotriton, Siren, Desmognathus, Typhlotriton, Haideotriton Ecological Expertise: life history and reproduction of amphibians

Organisms Worked With: 12 Systematic Techniques: 20 21 27 28

Ecological Interests:

Geographical Areas: worldwide

Organism Specialties: Lepidoptera - Rhopaiocena - Hesperiidae

Ecological Expertise:

Organisms Worked With: 12 13 15 Systematic Techniques: 21 Ecological Interests: 38 41 42 43 47 50

Geographical Areas: Illinois

Organism Specialties: aquatic and semi-aquatic Heteroptera; aquatic

Coleoptera

Ecological Expertise: environmental assessment through water quality and benthic macroinvertebrate community interactions

Organisms Worked With: 12

Systematic Techniques: 20 21 23 27 28

Ecological Interests: 35 37 38 39 41 42 43 44 45

50 55 62

Geographical Areas: Illinois, statewide; North Carolina; South

Carolina; worldwide

Organism Specialties: Insecta - Coleoptera - Haliplidae and aquatics

Ecological Expertise: environmental assessment, modelling, siting

Organisms Worked With: 1 2 3 8 9 10

Systematic Techniques: 21 27 Ecological Interests: 34 40 41 48 50 62 66

Geographical Areas: northern Illinois and Wisconsin Organism Specialties: Accipitridae, Pandionidae, Cathartidae,

Falconidae, Tytonidae, Strigidae

Ecological Expertise:

Organisms Worked With: 8 Systematic Techniques: 20 Ecological Interests: 34 40 41 42

46 52 55

Geographical Areas: Champaign, Iroquois and Kankakee Counties,

Illinois

Organism Specialties: Rodentia - Sciuridae - Sciurus and Tamiasciurus

Ecological Expertise: small mammal population ecology and competition

Dr. Daniel D. Brown

Superintendent

Macon Mosquito Abatement District

RR 1Box 283c

Decatur, IL 62526

Ph.D. University of Illinois 1977

Phone (217) 875-2722

#50

Dr. Lauren E. Brown

Professor

Illinois State University

Department of Biological Sciences

Normal, IL 61761

Ph.D. University of Texas-Austin 1967

Phone (309) 438-5990

#51

Dr. Sandra L. Brown

Assistant Professor University of Illinois Department of Forestry 110 Mumford Hall, 1301 W. Gregory

Urbana, IL 61801

Ph.D. University of Florida 1978

Phone (217) 333-1643

#52

Dr. Richard B. Brugam

Associate Professor Southern Illinois University Department of Biological Sciences

Box 65b

Edwardsville, IL 62026

Ph.D. Yale University 1975

Phone (618) 656-3927

#53

Mr. John Clay Bruner

Collection Manager Field Museum of Natural History Geology Department Roosevelt Road at Lake Shore Drive Chicago, IL 60605-2496

M.S. Northern Illinois University 1979

Phone (312) 922-9410

#54

Dr. Stephen M. Bryant

Associate Professor Western Illinois University Department of Biology Macomb, IL 61455

Ph.D. Univ. of California-Riverside 1975 Phone (309) 298-1374 Organisms Worked With: 12 Systematic Techniques: 21 27 28

Ecological Interests: 37 38 39 41 42 43

52 64

Geographical Areas: Macon, Piatt, Champaign and Vermilion Counties,

Illinois

Organism Specialties: Diptera - Culicidae - Aedes vexans,

A. trivittatus, A. triseriatus, Culex pipiens, C. restuans, C. salinarius,

C. erraticus

Ecological Expertise: population dynamics, flight activity, temporalspatial-seasonal distribution, overwintering and general bionomics of

Culicidae

Organisms Worked With: 10

Systematic Techniques: 20 21 27 28 31 33 Ecological Interests: 34 35 37 40 42 43 44 45

46 48 50 51 52 63 65

Geographical Areas: sand prairie along the Illinois River, valleys of

the Illinois and Mackinaw Rivers, Illinois

Organism Specialties: Salientia - Bufonidae - Bufo; Ranidae - Rana

pipiens complex; Hylidae - Pseudoacris, Hyla

Ecological Expertise: speciation, causes and effects of natural

hybridization, relic populations; amphibian biology, reproductive ecology,

fossorial ecology; ecology of floodplains and prairies

Organisms Worked With: 1 2

Systematic Techniques:

Ecological Interests: 36 40 41 42 43 45

49 55 56 60

Geographical Areas: southern Illinois, north central Illinois;

tropics, Latin America, especially Puerto Rico

Organism Specialties:

Ecological Expertise: organic matter dynamics of tropical forests and

wetlands/bottomlands

Organisms Worked With: 7 13

Systematic Techniques: 27

Ecological Interests: 37 38 41 43

62

Geographical Areas: Madison, St. Clair, Perry and Jackson Counties,

Illinois

Organism Specialties: diatoms

Ecological Expertise: recovery of surface mine sites, especially

neutralization of surface mine lakes

Organisms Worked With: 11

Systematic Techniques: 20 23 27

Ecological Interests: 37 38 40 42 43

47 50 52

Geographical Areas: Cook and Will Counties, Illinois; Indiana; Wyoming

Organism Specialties: Osteichthyes - Pomacentridae - Percidae

Ecological Expertise: systematics of fishes

Organisms Worked With: 12

Systematic Techniques: 21 22 26 27

Ecological Interests: 34 40 42

48

Geographical Areas: deserts and mountains of California and Colorado

Organism Specialties: Drosophila

Ecological Expertise: population ecology of Drosophila

Dr. D. Homer Buck

Aquatic Biologist

Illinois Natural History Survey Section of Aquatic Biology

Rt. 1

Kinmundy, IL 62854

Ph.D. Oklahoma State University 1951 Phone (618) 245-6348

#56

Mr. John E. Buhnerkempe

Assistant Supportive Scientist ENR - State Natural History Survey Section of Wildlife Research 200 W. Wernsing Effingham, IL 62401

M.S. Eastern Illinois University 1979 Phone (217) 347-5921

#57

Dr. William Carl Burger

Curator

Field Museum of Natural History Department of Botany Roosevelt Road at Lake Shore Drive

Chicago, IL 60605

Ph.D. Washington University-St. Louis 1961 Phone (312) 922-9410

#58

Mr. Dale Paul Burkett

Conservation Resource Manager II Illinois Department of Conservation Division of Fish & Wildlife Resources 13608 Fox Road Yorkville, IL 60560

M.S. Eastern Illinois University 1981 Phone (312) 553-6680

#59

Dr. Christopher D. Burnett

Assistant Wildlife Ecologist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Boston University 1982 Phone (217) 333-8907

#60

Dr. Brooks M. Burr

Associate Professor Southern Illinois University Zoology Department Carbondale, IL 62901

Ph.D. University of Illinois-U.C. 1977

Phone (618) 536-2314

Organisms Worked With: 1 7 10 11 12 13 15 16 18

Systematic Techniques: 27 Ecological Interests: 37 38 39 41 42 43 44 45

46 58

Geographical Areas: Marion County, Illinois

Organism Specialties:

Ecological Expertise: managed and artificial fish production systems

Organisms Worked With: 9 Systematic Techniques:

Ecological Interests: 34 35 40 41 43 44 45

46 47 48 52 58 62

Geographical Areas: Jasper and Marion Counties, Illinois

Organism Specialties:

Ecological Expertise: grassland ecology, avian community studies

Organisms Worked With: 1 Systematic Techniques: 21 27 28

Ecological Interests:

Geographical Areas: Central America, Costa Rica

Organism Specialties: Central American Piperaceae and Lauraceae

Ecological Expertise:

Organisms Worked With: 7 11 13 15

Systematic Techniques:

Ecological Interests: 37 38 39 41 42 43 45

46 47 50 55 62

Geographical Areas: Kendall, Will, Grundy and Kankakee Counties,

Illinois

Organism Specialties:

Ecological Expertise: aquatic ecosystems in natural or man-made lentic water bodies; biomass distribution by guild, especially in the fish

community

Organisms Worked With: 1 2 8 9 Systematic Techniques: 20 21 27 31 Ecological Interests: 34 35 40 41 42 43 45

46 50 54 62 66

Geographical Areas: coal mining areas in Illinois; Great Lake states;

New England states; Puerto Rico

Organism Specialties: bats: Chiroptera, Vespertilionidae, Eptesicus

Ecological Expertise: mammalian population ecology, especially bats; environmental assessment of surface mining; community ecology of agro-ecosystems

Organisms Worked With: 11

Systematic Techniques: 20 21 22 23 27 28 30 31

Ecological Interests: 37 40 42

Geographical Areas: southern Illinois; Kentucky; Ozarks of Missouri; main channel of the Mississippi River; North Carolina; Mexico Organism Specialties: Cypriniformes - Cyprinidae - Campostoma,

Clinostomus, Notropis; Siluriformes - Noturus; Perciformes - Centrarchidae

- Lepomis, Acantharcus; Percidae - Etheostoma

Ecological Expertise: life history studies of small, non-game fishes including analyses of growth, development, reproduction, diet and survivorship

Mr. Philip J. Burton Graduate Student University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Ave. Urbana, IL 61801

M.S. University of Hawaii 1980 Phone (217) 333-8507

#62

Dr. Robert G. Butz Group Leader Velsicol Chemical Corp. R. & D. Dept., Environmental Sciences 341 E. Ohio Street Chicago, IL 60611

Ph.D. North Carolina State University 1978 Phone (312) 670-4831

#63

Dr. Joseph W. Camp, Jr. Assistant Professor Mundelein College Department of Biology 6363 Sheridan Road Chicago, IL 60660

Ph.D. Wake Forest University 1980 Phone (312) 262-8100 Ext. 525

#64

Dr. Sidney Camras

M.D.

5600 W. Addison Avenue #202 Chicago, IL 60634

M.D. Illinois Medical School 1944 Phone (312) 777-8696

#65

Mr. Thomas P. Carroll Graduate Student University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

B.A. State Univ. of New York - Purchase 1983 Phone (217) 333-1298

#66

Mr. Stephen R. Carter

Senior Scientist Environ. Science & Engineering Inc. Midwest Office 11665 Lilburn Park Road St. Louis, MO 63146

B.S. University of Illinois 1971 Phone (314) 567-4600 Organisms Worked With: 1

Systematic Techniques:

Ecological Interests: 34 35 36 40 41 42 43 45

47 48 50 52 54 55 57 59 60 61 62 63 65

Geographical Areas: Champaign County, Illinois; Hawaiian Islands;

Alberta and Northwest Territories, Canada

Organism Specialties:

Ecological Expertise: design and analysis of vegetation surveys and monitoring programs; surface coal mine revegetation; experimental and modelling approaches to studying mechanisms of plant succession

Organisms Worked With: 1 5 7 Systematic Techniques: 26 Ecological Interests: 36 41 43 50 55 60 65

Geographical Areas:

Organism Specialties:

Ecological Expertise: fate of xenobiotics in terrestrial and aquatic ecosystems, especially in higher plants and bacteria

Organisms Worked With: 11 13 15 Systematic Techniques: Ecological Interests: 37 40 42 44 52 66

Geographical Areas: DuPage and McLean Counties, Illinois

Organism Specialties:

Ecological Expertise: dynamics of parasite populations found in freshwater fishes, mollusks and crustaceans

Organisms Worked With: 12 Systematic Techniques: 20 27 28 Ecological Interests:

Geographical Areas: worldwide

Organism Specialties: Diptera - Conopidae

Ecological Expertise:

Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 36 38 40 42 43 47 48 49 51 52 56 57 58

Geographical Areas: Piatt and Champaign Counties, Illinois;

New York State

Organism Specialties: Acer saccharum

Ecological Expertise: community classification; environmental factors affecting mortality and crop size

Organisms Worked With: 11 12 13 15 16 Systematic Techniques: 20 21 27 28 Ecological Interests: 37 38 39 41 42 43 44 45

47 48 50 52 61 62

Geographical Areas: large midwestern river systems: Upper Mississippi, Missouri and Illinois Rivers

Organism Specialties: aquatic macroinvertebrates of the Midwest: Ephemeroptera; Trichoptera; aquatic Diptera - Chironomidae; Oligochaeta Ecological Expertise: aquatic macroinvertebrate ecosystems (benthic, drift, aufwuchs); impact assessment, thermal studies, entrainment and impingement

Dr. Everett D. Cashatt

Assoc. Curator/Coord. Zool. Res. Illinois State Museum Department of Zoology Spring & Edwards Springfield, IL 62704

Ph.D. Catholic University of America 1968 Phone (217) 782-6689

#68

Dr. Tsan Iang Chuang

Professor Illinois State University Department of Biological Sciences Normal, IL 61761

Ph.D. Univ. of California-Berkeley 1966 Phone (309) 438-7351

#69

Mr. James M. Clark Graduate Student University of Chicago Department of Anatomy 1025 E. 57th Street Chicago, IL 60637

M.A. Univ. of California-Berkeley 1984

#70

Dr. Glen E. Collier Associate Professor Illinois State University Department of Biological Sciences Normal, IL 61761

Ph.D. Cornell University 1976 Phone (309) 438-7280

#71

Mr. Francis William Collins Chief, Environ. Analysis Branch U.S. Corps Eng., Rock Island Distr. Planning Div., Environ. Analysis Branch Clock Tower Bldg. Annex Rock Island, IL 61201

M.S. University of Louisville 1955 Phone (309) 788-6361 Ext. 2685

#72

Mr. Patrick J. Conway

4533 Stanley Downers Grove, IL 60515

Phone (312) 852-5934

Organisms Worked With: 12 Systematic Techniques: 21 27 28 Ecological Interests: 34 40 42 46 48 51 58 Geographical Areas: New World

Organism Specialties: microlepidoptera, Pyraloidea - Pyralidae (Chrysauginae) and Pterophoridae Ecological Expertise: life histories

Organisms Worked With: 1

Systematic Techniques: 20 24 27 28 29

Ecological Interests: 34 51 59

Geographical Areas: central Illinois; western U.S.A., especially

California

Organism Specialties: Scrophulariaceae - Cordylanthus, Orthocarpus,

Castilleja; Umbelliferae - Perideridia

Ecological Expertise:

Organisms Worked With: 10 Systematic Techniques: 20 23 27 28

Ecological Interests:

Geographical Areas: Colorado Plateau; Tamaulipas, Mexico

Organism Specialties: Crocodilia

Ecological Expertise:

Organisms Worked With: 12 Systematic Techniques: 22 26 33 Ecological Interests: 40 42 44 51 57

Geographical Areas:

Organism Specialties: Drosophila

Ecological Expertise:

Organisms Worked With: 1 8 9 11 12 15 Systematic Techniques: 21 27 28 Ecological Interests: 36 37 41 42 43 45

46 52 54 60 61 62 63

Geographical Areas: Kentucky

Organism Specialties:

Ecological Expertise: quail and deer ecology; surface mine reclamation

Organisms Worked With: 12 Systematic Techniques: 21 28 Ecological Interests: 34 42 43 45

50 52 54 60 61 62 63

Geographical Areas: North America, especially Illinois, Great Plains

states, Upper Rocky Mountain states

Organism Specialties: Nearctic Lepidoptera, especially Rhopalocera Ecological Expertise: distribution and identification of Rhopalocera; (personal collection of 15,000 + specimens of Nearctic Lepidoptera)

Dr. Michael J. Corn

Professor

College of Lake County Division of Biological & Health Sciences

19351 W. Washington Street Grayslake, IL 60030

Ph.D. University of Florida 1981 Phone (312) 223-6601

#74

Dr. Robert S. Corruccini

Associate Professor Southern Illinois University Department of Anthropology Carbondale, IL 62901

Ph.D. Univ. of California-Berkeley 1975 Phone (618) 536-6651

#75

Dr. Suzanne H. Costanza

Research Associate University of Illinois Department of Agronomy 1102 S. Goodwin Ave. Urbana, IL 61801

Ph.D. University of Illinois-U.C. 1984 Phone (217) 333-0842

#76

Mr. Kirby D. Cottrell

Hatcheries Program Manager Illinois Department of Conservation Sand Ridge Fish Hatchery P.O. Box 560 Manito, IL 61546

M.S. University of Tennessee 1976 Phone (309) 968-7531

#77

Mr. David C. Cowgill

Physical Scientist U.S. Army Corps of Engineers North Central Division - NCDED-WQ 536 S. Clark Street Chicago, IL 60605

M.S. Indiana University 1977 Phone (312) 353-6354

#78

Dr. Joel Cracraft

Associate Professor University of Illinois at Chicago Department of Anatomy P.O. Box 6998 Chicago, IL 60680

Ph.D. Columbia University 1969 Phone (312) 996-4955 Organisms Worked With: 10 Systematic Techniques: 21 27 31 Ecological Interests: 35 42 43

48 49 57

Geographical Areas: Central America - Costa Rica; northeast Illinois - Lake, Cook, McHenry, DuPage, Kane and Will Counties Organism Specialties: Squamata, especially Anolis

Ecological Expertise:

Organisms Worked With: 8 Systematic Techniques: 20 23 27 30

Ecological Interests:

Geographical Areas: India; Italy Organism Specialties: primates

Ecological Expertise:

Organisms Worked With: 1 2 3 Systematic Techniques: 20 27 28 29 33 Ecological Interests: 35 36 40 41 42 51 54 58 59 60

Geographical Areas:

Organism Specialties: extinct Coniferophytes - Cordaitales - Cordaitaceae - Mesoxylon, Pennsylvanioxlyon; modern Poaceae - Eragrostis Ecological Expertise: paleoecology

Organisms Worked With: 11 7 Systematic Techniques: 26 Ecological Interests: 27 39 41 44 45

Geographical Areas:

Organism Specialties:

Ecological Expertise: plankton dynamics

Organisms Worked With: Systematic Techniques: Ecological Interests: 37 38 39 41 43 45 50 55 56 62

Geographical Areas:

Organism Specialties:

Ecological Expertise: limnology, aquatic ecology, water and sediment chemistry

Organisms Worked With: 9
Systematic Techniques: 20 21 23 27
Englogical Interests:

Ecological Interests:

Geographical Areas: Australasia and tropical America

Organism Specialties: Aves

Ecological Expertise: biogeography and speciation analysis

Dr. David M. Craig Assistant Professor Rosary College Department of Natural Sciences 7900 West Division River Forest, IL 60305

Ph.D. University of Illinois - Chicago 1980 Phone (312) 366-2490 Ext. 403

#80

Dr. J. Leland Crane

Mycologist Illinois Natural History Survey Section of Botany & Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Maryland 1967 Phone (217) 333-6887

Dr. David C. Culver

Professor Northwestern University Dept. of Ecology & Evolutionary Biology Evanston, IL 60201

Ph.D. Yale University 1970 Phone (312) 492-7199

#82

Dr. Charles L. Davis Assistant Professor McKendree College Division of Science and Math 901 College Road Lebanon, IL 62254

Ph.D. Oregon State University 1980 Phone (618) 537-4481

#83

Dr. Johannes M. J. DeWet

Professor University of Illinois Department of Agronomy 1102 S. Goodwin Ave. Urbana, IL 61801

Ph.D. Univ. of California-Berkeley 1952 Phone (217) 333-9458

#84

Dr. Jonathan P. Dey Associate Professor Illinois Wesleyan University Department of Biology Sherff Hall Bloomington, IL 61701

Ph.D. Duke University 1975 Phone (309) 556-3060

Organisms Worked With: 12 Systematic Techniques: Ecological Interests: 34 40 44 48 51 55

Geographical Areas:

Organism Specialties:

Ecological Expertise: population biology - group selection, life history theory, competition theory

Organisms Worked With: 5 6 Systematic Techniques: 25 27 28 33 Ecological Interests: 38 40 42

Geographical Areas: cypress swamps of southern Illinois; Neotropics

Organism Specialties: Hyphomycetes, Ascomycetes, Torula

Ecological Expertise:

Organisms Worked With: 1 12 13 Systematic Techniques: Ecological Interests: 34 35 37 38 40 42

51 58

Geographical Areas: Colorado, West Virginia, Virginia Organism Specialties:

Ecological Expertise: cave biology; theoretical ecology; ant-plant interactions

Organisms Worked With: 10 12 15 Systematic Techniques: 22 26 27 Ecological Interests: 34 37 38 40 42 51 52 Geographical Areas: Pacific Coast

Organism Specialties: Tribolium flour beetles; Thais snails

Ecological Expertise: ecological genetics, sex ratio evolution

Organisms Worked With: 1 Systematic Techniques: 22 24 26 27 28 31

Ecological Interests: 34 43

Geographical Areas: Africa; Asia, especially India; tropical America, especially Mexico, Venezuela and Columbia

Organism Specialties: Poaceae

Ecological Expertise:

Organisms Worked With: 6

Systematic Techniques: 20 21 22 27 28 30 Ecological Interests: 34 35 36 40 42 43 47 48 50 52 63

Geographical Areas: Illinois; Mammoth Cave National Park, Kentucky;

southern Appalachian Mountains

Organism Specialties: fruticose and foliose lichens

Ecological Expertise: lichen species inventory

Dr. Michael O. Dillon

Assistant Curator Field Museum of Natural History Botany Department Roosevelt Road at Lake Shore Drive Chicago, IL 60605-2496

Ph.D. University of Texas-Austin 1976 Phone (312) 922-9410 Ext. 384

#86

Dr. Boyce A. Drummond

Assistant Professor Illinois State University Department of Biological Sciences Normal, IL 61761

Ph.D. University of Florida 1976 Phone (309) 438-7694

#87

Ms. Heidi Lorentzen Dunn

Aquatic Biologist Environ. Science & Engineering Inc. **Ecology Division** 11665 Lilburn Park Road St. Louis, MO 63146

B.S. Purdue University 1979 Phone (314) 567-4600

Dr. Leonard Durham

Director & Assistant Dean Eastern Illinois University Department of Environmental Biology Charleston, IL 61920

Ph.D University of Illinois 1955 Phone (217) 581-3011

#89

Mr. Jon R. Duyvejonck

General Biologist U.S. Army Corps of Engineers Planning Division Clock Tower Building Rock Island, IL 61201

M.S. Illinois State University 1978 Phone (309) 788-6361

#90

Dr. Anthony J. Dvorak

Associate Division Director Argonne National Laboratory Environmental Research Division 9700 S. Cass Avenue Argonne, IL 60439

Ph.D. University of Oklahoma 1973 Phone (312) 972-3117

Organisms Worked With: 1

Systematic Techniques: 21 24 27 28 29

Ecological Interests:

Geographical Areas: Neotropics, especially Peru

Organism Specialties: Asteraceae

Ecological Expertise:

Organisms Worked With: 12 Systematic Techniques: 21 24 31 Ecological Interests: 35 40 42 46 48 51 52 58

Geographical Areas: McLean County, Illinois; Colorado, Arkansas;

Ecuador

Organism Specialties: Lepidoptera - Rhopalocera (Papilionoidea),

especially Nymphalidae - Ithomiinae

Ecological Expertise: insect population ecology, tropical community ecology, behavioral and reproductive ecology of Lepidoptera

Organisms Worked With: 11 15 16 Systematic Techniques:

Ecological Interests: 37 38 39 41 43 45

50 52

Geographical Areas: Mississippi River and tributaries; Missouri,

Texas, Illinois

Organism Specialties: fish, especially Percids and Cyprinids;

Unionidae; Oligochaeta Ecological Expertise:

Organisms Worked With: 10 11 15 Systematic Techniques: 27

Ecological Interests: 37 38 41 42 43 44 45 48 50 52 56 62

Geographical Areas: Coles, Cumberland and Clark Counties, Illinois;

Midwest states

Organism Specialties: Centrarchidae, Percidae

Ecological Expertise: fisheries management, age and growth of fishes, population studies

Organisms Worked With: 11 15 Systematic Techniques: Ecological Interests: 37 40 42

50

Geographical Areas: Mississippi River, Pools 11-22; Mackinaw River, Illinois

Organism Specialties:

Ecological Expertise: distribution and movements of fishes in channelized streams

Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 36 40 41 42 43

50 57 61 63

Geographical Areas: Macoupin County, Illinois; Red Desert, Wyoming

Organism Specialties:

Ecological Expertise: grassland ecology; disturbed lands reclamation ecology and succession

Dr. William G. Dyer Professor & Associate Dean Southern Illinois University Department of Zoology Carbondale, IL 62901

Ph.D. Colorado State University 1965 Phone (618) 536-2314

#92

Dr. Bohdan Dziadyk **Assistant Professor** Augustana College Department of Biology 63938th Street Rock Island, IL 61201

Ph.D. North Dakota State University 1982 Phone (309) 794-7331

#93

Dr. John E. Ebinger

Professor Eastern Illinois University Department of Botany Charleston, IL 61920

Ph.D. Yale University 1961 Phone (215) 581-3525

#94

Dr. William R. Edwards

Ecologist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois-U.C. 1975 Phone (217) 333-6857

#95

Dr. Gary E. Eertmoed

Professor Chicago State University Department of Biology 95th Street & King Drive Chicago, IL 60628

Ph.D. University of Illinois 1969 Phone (312) 995-2206

#96

Mr. William J. Elzinga

Biologist Union Electric Company **Environmental Services** 1901 Gratiot Street St. Louis, MO 63166

M.S. S. Illinois Univ.-Edwardsville 1984 Phone (314) 554-3156

Organisms Worked With: 16 19 Systematic Techniques: 20 28 Ecological Interests: 37

Geographical Areas: Puerto Rico, Mexico, South America Organism Specialties: digenetic trematodes of marine fish

Ecological Expertise:

Organisms Worked With: 1 Systematic Techniques: 21 27 Ecological Interests: 35 38 40 42 43 47 60 63 66

Geographical Areas: Rock Island County and the entire prairie penninsula region, Illinois; Clay County, Minnesota

Organism Specialties: Poaceae

Ecological Expertise: grassland ecology, especially tallgrass prairie

Organisms Worked With: 1 2 3 Systematic Techniques: 27 28 Ecological Interests: 35 40 42 47 52

Geographical Areas: Illinois, Indiana Organism Specialties: Poaceae of Illinois

Ecological Expertise: vegetation analysis of forest communities in Illinois

Organisms Worked With: 8 9 Systematic Techniques: 21 31

Ecological Interests: 34 35 40 41 42 43 45

48 50 52 54 56 58 59 60 61 62 63

Geographical Areas: Illinois; agricultural areas of the Midwest

prairies and their forest ecotones

Organism Specialties: Sylvilagus, Scolopax minor; Galliformes,

Zenaida macroura

Ecological Expertise: population ecology of upland game birds, mammals, and their habitats; relationships of wildlife to intensive agriculture;

upland game wildlife management; secondary succession

Organisms Worked With: 12

Systematic Techniques: 20 21 23 27 28 30 31

Ecological Interests:

Geographical Areas: Illinois, Minnesota, Wisconsin, Michigan; Ontario, Canada; Central America and South America Organism Specialties: Insecta - Psocoptera

Ecological Expertise:

Organisms Worked With: 1 19 Systematic Techniques: 29 Ecological Interests: 35 40 42 43 50 52 59 61 63

Geographical Areas: southern Illinois; Callaway County, Missouri

Organism Specialties:

Ecological Expertise: plant ecology of forests and old fields

Dr. John J. Engel **Associate Curator** Field Museum of Natural History Department of Botany Roosevelt Road at Lake Shore Drive

Chicago, IL 60605

Ph.D. Michigan State University 1972 Phone (312) 922-9410

#98

Dr. Dan K. Evans

Associate Professor/Curator Marshall University Department of Biological Sciences Hal Greer Blvd. Huntington, WV 25701

Ph.D. So. Illinois Univ.-Carbondale 1974 Phone (304) 696-6467

#99

Dr. Robert A. Evers **Botanist Emeritus** Illinois Natural History Survey Department of Botany and Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1952 Phone (217) 333-6886

#100

Dr. Bill W. Falls

Assistant Hatchery Manager Illinois Department of Conservation Sand Ridge Fish Hatchery Box 560 Manito, IL 61546

Ph.D. University of Southern Mississippi 1983 Phone (309) 968-7531

#101

Mrs. Judith L. Faulkner

Nat. Areas Preservation Specialist The Nature Conservancy Southern Illinois Field Office RR 2Box 178 Murphysboro, IL 62966

M.A. So. Illinois Univ.-Carbondale 1972 Phone (618) 684-2660

Mr. George B. Fell Executive Director Natural Land Institute 320 S. Third Street Rockford, IL 61108

M.S. University of Michigan 1940 Phone (815) 964-6666

Organisms Worked With: 4 Systematic Techniques: 21 27 28

Ecological Interests:

Geographical Areas: New Zealand, Tasmania, southern South America

Organism Specialties: Hepaticae - Schistochilaceae, Geocalycaceae

Ecological Expertise:

Organisms Worked With: 1

Systematic Techniques: 20 21 24 27 28 Ecological Interests: 35 38 40 42 43

47

Geographical Areas: Illinois, West Virginia

Organism Specialties: Cyperaceae - Carex

Ecological Expertise: wetland and riparian ecology

Organisms Worked With: 1 2 3 Systematic Techniques:

Ecological Interests: 35

Geographical Areas: Illinois, all counties

Organism Specialties:

Ecological Expertise: natural areas, hill prairies

Organisms Worked With: 11 Systematic Techniques: 20 26

Ecological Interests:

Geographical Areas: Illinois water bodies, including Lake Michigan

Organism Specialties: Percichthyidae, Salmonidae, Ictaluridae, Centrarchidae, Cyprinidae, Esocidae

Ecological Expertise:

Organisms Worked With: 1 2 3 8 9

Systematic Techniques:

Ecological Interests: 35 36 41 42

47 50 58 59 60 62

Geographical Areas:

Organism Specialties:

Ecological Expertise: natural area identification and management

Organisms Worked With: 1 3 Systematic Techniques: Ecological Interests: 36 39 42 47 54 62

Geographical Areas: Illinois Organism Specialties:

Ecological Expertise: natural area preservation and management

Dr. John W. Fitzpatrick

Associate Curator Field Museum of Natural History Division of Birds Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. Princeton University 1978 Phone (312) 922-9410

#104

Dr. Jack Fooden

Research Associate Field Museum of Natural History Division of Mammals Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. University of Chicago 1960 Phone (312) 922-9410 Ext. 275

#105

Dr. Susan M. Ford

Assistant Professor Southern Illinois University Department of Anthropology Carbondale, IL 62901

Ph.D. University of Pittsburgh 1980 Phone (618) 536-6651

#106

Dr. George Lawrence Forman

Professor & Chairman Rockford College Department of Biology 5050 East State Rockford, IL 61101

Ph.D. University of Kansas 1969 Phone (815) 226-4133

#107

Dr. Merrill White Foster

Professor **Bradley University** Department of Geological Sciences Peoria, IL 61625

Ph.D. Harvard University 1970

Phone (309) 676-7611 Ext. 462

#108

Dr. Robin B. Foster

Research Associate Field Museum of Natural History Department of Botany Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. Duke University 1974 Phone (312) 922-9410

Organisms Worked With: 9

Systematic Techniques: 21 23 27 28 31

Ecological Interests: 34 35 40 42

46 48 51

Geographical Areas: Florida; Peru, Brazil, Venezuela

Organism Specialties: Passeriformes: Tyrannidae, Cotingidae, Pipridae,

Corvidae, Formicariidae

Ecological Expertise: island biogeography, foraging strategies, population dynamics and demography, evolution of social systems

Organisms Worked With: 8 Systematic Techniques: 20 21 27 28 Ecological Interests: 36 40 42

46 51

Geographical Areas: southern and eastern Asia

Organism Specialties: primates - Macaca

Ecological Expertise: interspecific relationships

Organisms Worked With: 8 Systematic Techniques: 20 21 23 27 Ecological Interests:

Geographical Areas: Neotropics

Organism Specialties: primates - Platyrrhini

Ecological Expertise:

Organisms Worked With: 8 Systematic Techniques: 20 24 27 31

Ecological Interests:

Geographical Areas: North America, Central America, Paleotropics

Organism Specialties: bats, especially Phyllostomidae, Vespertilionidae, Pteropidae

Ecological Expertise:

Organisms Worked With: 15 17 19

Systematic Techniques: 20 21 23 24 25 27 28 30 31

Ecological Interests: 37 38 39 40 42 43

46 47 48 50 51 52 58 63

Geographical Areas: central Illinois, seas around Antarctica and the subantarctic islands; seas around the Azores Islands Organism Specialties: Hydrozoa, Scyphozoa - Terebratulida,

Rhynchonellida, Strophomenida, Orthida, Spiriferica, Acrotretida -

Ecological Expertise: marine ecology (brachiopods), community structure and interrelationships of communities, species and populations to physical, chemical, biological and geographic factors; Pennsylvanian plankton comm.

Organisms Worked With: 1 2 3 12 Systematic Techniques: 21 27 28 31 Ecological Interests: 34 35 36 40 42

47 48 50 51 52 58 59 60 62 63 66

Geographical Areas: South America and Central America, especially Peru, Ecuador, Panama and Costa Rica; Paleotropics

Organism Specialties: neotropical forest genera

Ecological Expertise: tropical forest community ecology and floristics

Dr. James S. Fralish Associate Professor Southern Illinois University Department of Forestry Carbondale, IL 62901

Ph.D. University of Wisconsin-Madison 1969 Phone $(618)\,453-3341$

#110

Dr. Dorothea S. Franzen Professor Emeritis Illinois Wesleyan University

Department of Biology Bloomington, IL 61701

Ph.D. University of Kansas 1946 Phone (309) 556-3187

#111

Mr. Sanford Friedman Curator & Chairman Chicago Zoological Park Mammal Department

3300 Golf Road Brookfield, IL 60513

B.S. State Univ. of New York-Stony Brook 1975

#112

Dr. Richard C. Funk

Professor Eastern Illinois University Department of Zoology Charleston, IL 61920

Ph.D. University of Kansas 1968 Phone (217) 581-2926

#113

Dr. Keith Garbutt Research Associate Harvard University Dept. of Organismic & Evolutionary Biology 16 Divinity Avenue Cambridge, MA 02138

Ph.D. University of Wales 1981 Phone (617) 495-8791

#114

Mr. Scott P. Garrow
District Wildlife Manager
Illinois Department of Conservation
Fish & Wildlife Resources
P.O. Box 395
Lisle, IL 60532

B.S. Univ. of Wisconsin-Stevens Point 1975 Phone (312) 964-5132 Organisms Worked With: 1 2 Systematic Techniques:

Ecological Interests: 35 42 43 45

54 55 56 59 60 62 63 66

Geographical Areas: southern Illinois, western Kentucky

Organism Specialties:

Ecological Expertise: forest community-site relationships; succession models; site index models; forest community-fire relationships; habitat typing; natural areas

Organisms Worked With: 15 Systematic Techniques: 20 24 27

Ecological Interests:

Geographical Areas: mollusk family Succineidae throughout the U.S.A. Organism Specialties: mollusks: Pupillidae - Succineidae - Succinea, Oxyloma, Catinella

Ecological Expertise:

Organisms Worked With: 8 14 Systematic Techniques: 26 Ecological Interests: 34 41 44 46 48

Geographical Areas: Kankakee County, Illinois

Organism Specialties: Rodentia: Geomyidae - Geomys, Castoridae - Castor; Carnivora: Mustelidae - Mustela, Gulo; Felidae - Panthera,

Felis

Ecological Expertise: parasite ecology; captive breeding and management

Organisms Worked With: 12 14 Systematic Techniques: 21 23 27 28 30 Ecological Interests: 34 40 42

Geographical Areas: worldwide

Organism Specialties: Acari - Trigynaspida - Celaenopsoidea -

Euzerconidae, Diplogyniidae, Schizogyniidae

Ecological Expertise: phoresy and other symbiotic relationships

Organisms Worked With: 1 Systematic Techniques: 26 31 Ecological Interests: 34 42 44 45

48 51 55 57 58 59 65 66

Geographical Areas: Champaign County, Illinois; Great Britain

Organism Specialties: Cruciferae - Capsella, Sinapis

Ecological Expertise: ecological genetics, demography, reproductive biology, plant breeding; effects of elevated carbon dioxide concentrations

Organisms Worked With: 8 9 Systematic Techniques: Ecological Interests: 36 41 45

62 62 sts: 36 41 45

Geographical Areas: Cook, Lake, McHenry and DuPage Counties, Illinois

Organism Specialties:

Ecological Expertise: urban wildlife ecology

Dr. Nancy C. Garwood

Assistant Professor Loyola University of Chicago Department of Biology 6525 N. Sheridan Road Chicago, IL 60626

Ph.D. University of Chicago 1979

Phone (312) 508-3284

#116

Dr. William G. George

Professor Southern Illinois University Department of Zoology Carbondale, IL 62901

Ph.D. University of Arizona 1961

Phone (618) 536-2314

#117

Dr. Robert V. Gessner

Associate Professor Western Illinois University Department of Biological Sciences Macomb, IL 61455

Ph.D. University of Rhode Island 1975

Phone (309) 298-1145

#118

Dr. Lowell L. Getz

Professor University of Illinois Dept. of Ecology, Ethology & Evolution 606 E. Healey Street Champaign, IL 61820

Ph.D. University of Michigan 1960

Phone (217) 333-6516

#119

Mr. William D. Glass

Natural Heritage Biologist Illinois Department of Conservation One First National Bank Plaza, Suite 519 17th and Halsted Streets Chicago, IL 60411

M.S. University of Illinois - Chicago 1982

Phone (312) 754-0947

#120

Dr. Sidney F. Glassman

Professor University of Illinois at Chicago Department of Biological Sciences P.O. Box 4348 Chicago, IL 60680

Ph.D. University of Oklahoma 1950

Phone (312) 996-2993

Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 40 42 43

51 58 63

Geographical Areas: Cook County, Illinois; Panama; Papua New Guinea

Organism Specialties:

Ecological Expertise: tropical plant ecology; pollination ecology

Organisms Worked With: 8 9

Systematic Techniques: 20 21 27 31

Ecological Interests: 34 35 36 40 41 42 43 44

46 48 51 52

Geographical Areas: Union County and adjacent areas, Illinois Organism Specialties: Mammalia - Felis, Mustella; most orders;

Aves - oscines; Indicatoridae

Ecological Expertise: predator-prey relationships between the domestic

cat and the vertebrate fauna

Organisms Worked With: 5

Systematic Techniques: 21

Ecological Interests: 34 35 37 40 41 42

48 52 63

Geographical Areas: west central Illinois

Organism Specialties: higher fungi, morels, ectomycorrhizae

Ecological Expertise: fungal ecology, saltmarsh fungi, marine fungi

Organisms Worked With: 8 15

Systematic Techniques:

Ecological Interests: 34 40 43 45

46 48 52

Geographical Areas: Champaign County, Illinois

Organism Specialties: gastropods

Ecological Expertise: population ecology

Organisms Worked With: 1 Systematic Techniques: 21

Ecological Interests: 34 41 42

62

Geographical Areas: northern Iowa; Illinois

Organism Specialties: Asclepidaceae, Fabaceae, Solidago

Ecological Expertise: prairies, natural areas

Organisms Worked With: 1

Systematic Techniques: 20 21 22 27 28

Ecological Interests: 40

51

Geographical Areas: Brazil, Columbia, Venezuela, Peru; Central

America

Organism Specialties: Palmae, especially genera in the Cocos alliance

Ecological Expertise: vegetation of northeast Brazil and of palm

communities

Dr. George L. Godfrey

Associate Insect Taxonomist Illinois Natural History Survey Sect. Faunistics & Insect Identification 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Cornell University 1970 Phone (217) 333-6846

#122

Ms. Doris Armstrong Goldman

Graduate Student
University of Illinois
Dept. of Ecology, Ethology & Evolution
606 E. Healey Street
Champaign, IL 61820

M.S. Ohio State University 1976 Phone (217) 333-2235

#123

Mr. Robert Dan Gooch

Superintendent Natural Resources Forest Preserve Dist. DuPage Co. Natural Resources Department 185 Spring Street/P.O. Box 2339 Glen Ellyn, IL 60138

M.S. Iowa State University 1972 Phone (312) 790-4900

#124

Dr. Michael A. Goodrich

Profesor & Chairman Eastern Illinois University Department of Zoology Charleston, IL 61920

Ph.D. Pennsylvania State University 1964 Phone (217) 581-3126

#125

Ms. Dianna M. Goodwin

Graduate Student University of Illinois at Chicago Department of Biological Sciences P.O. Box 4348 Chicago, IL 60680

M.S. Univ. of California-Davis 1978 Phone (312) 996-2603

#126

Dr. Robert W. Gorden

Section Head Illinois Natural History Survey Section of Aquatic Biology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Georgia 1967 Phone (217) 333-6890 Organisms Worked With: 12 Systematic Techniques: 21 27 28 33 Ecological Interests: 35 40 42 45

46 47 48 58

Geographical Areas: Midwest and Rocky Mountain states

Organism Specialties: Lepidoptera - Noctuidae and Notodontidae

Ecological Expertise:

Organisms Worked With: 1 12 Systematic Techniques: 26 31

Ecological Interests: 34 37 40 41 42 44

48 49 53 55 56 58 59

Geographical Areas: Spring Lake Conservation Area and Vermilion

County, Illinois; central Ohio

Organism Specialties: Zizania, Helianthus, Corylus; Apoidea

Ecological Expertise: pollination of Asteraceae and Corylus; Zizania biology; composition of fruit pulps; foraging behavior of flower-visiting insects; sex ratios; human energy budgets

Organisms Worked With: 1 3 4 5 7 8 9 10 11 12 13 15

Systematic Techniques: 21 27 31

Ecological Interests: 34 35 36 37 38 39 40 42 47 48 50 52 61 62 63

Geographical Areas: DuPage County, Illinois

Organism Specialties: pteridophytes, bryophytes, algae

Ecological Expertise: reproduction of ferns

Organisms Worked With: 10 12 Systematic Techniques: 20 21 23 27 28

Ecological Interests:

Geographical Areas:

Organism Specialties: New World Cetoniinae (Scarabaeidae-Coleoptera),

world Byturidae (Coleoptera) Ecological Expertise:

Organisms Worked With: 1 12 Systematic Techniques: 27 Ecological Interests: 44 45

46 48 51 52 58 59 60 65 66

Geographical Areas: Kane & McHenry Counties, Illinois

Organism Specialties: Diabrotica virgifera, D. longicornis

Ecological Expertise: agricultural ecology, insect/weed pest management, insect evolution

Organisms Worked With: 19 Systematic Techniques:

Ecological Interests: 37 38 39 40 41 42 43 44 45

49 63 66

Geographical Areas: Mississippi River at Pools 19 and 26; Marion County, Illinois Organism Specialties:

Ecological Expertise: microbial ecology; bacterial activities in freshwater and thermal ecosystems; methane production

Mr. Keith C. Govro
Department Head
Environ. Science & Engineering Inc.
Ecology Department
11665 Lilburn Park Road

St. Louis, MO 63146

M.S. Iowa State University 1977 Phone (314) 567-4600

#128

Dr. Russell W. Graham

Associate Curator Illinois State Museum Department of Vertebrate Paleontology Spring and Edwards Springfield, IL 62706

Ph.D. University of Texas-Austin 1976 Phone (217) 785-4844

#129

Dr. David W. Greenfield

Dean & Assoc. Provost for Research Northern Illinois University The Graduate School De Kalb, IL 60115

Ph.D. University of Washington 1966 Phone (815) 753-1883

#130

Dr. Thomas Alan Griffiths

Assistant Professor Illinois Wesleyan University Department of Biology Beecher Avenue Bloomington, IL 61702

Ph.D. University of Massachusetts 1981 Phone (309) 556-3230

#131

Dr. Paul Gross

Assistant Professor University of Maryland Department of Entomology College Park, MD 20742

Ph.D. University of Illinois 1985 Phone (301)454-7124

#132

Mr. Robert F. Gruenewald

430 George St. Clifton, IL 60927

Phone (815) 694-2554

Organisms Worked With: 1 2 7 8 9 10 11

Systematic Techniques:

Ecological Interests: 34 35 36 37 38 39 40 41 42 43 45

47 50 52 56 61 62

Geographical Areas: central Illinois; central and northern Missouri; central and south-central U.S.

central and south-central U.

Organism Specialties:

Ecological Expertise: water quality impacts on biotic systems; aquatic toxicology; limnology; ecological impact assessment; community-habitat description; land usage relative to water quality

Organisms Worked With: 8
Systematic Techniques: 20 21 27 28
Ecological Interests: 35 36 40 42
47 51 53 54 58 66

Geographical Areas: Illinois; eastern Missouri

Organism Specialties: insectivores - Soricidae; Proboscidea;

rodents - microtines

Ecological Expertise: paleoecology, community evolution

Organisms Worked With: 11

Systematic Techniques: 21 22 23 24 26 27 28

Ecological Interests: 38 40 42 46 47 50 51

Geographical Areas: northern Illinois; Central America, especially

Belize and Honduras

Ecological Expertise: resource sharing, competition, community structure

Organisms Worked With: 8

Systematic Techniques: 20 21 23 27 28 33

Ecological Interests:

51

Geographical Areas: central Illinois; New England; upstate New York;

Central America; South America; West Indies

Organism Specialties: Chiroptera, especially Phyllostomidae and

Vespertilionidae Ecological Expertise:

Organisms Worked With: 1 2 12

Systematic Techniques:

Ecological Interests: 34 35 40 42 45

46 48 51 52 58 63 65

Geographical Areas: Mason Co., Illinois; Maryland Organism Specialties: Lepidoptera, Hymenoptera

Ecological Expertise: three trophic levels interactions; parasitoid

ecology

Organisms Worked With: 1 2 3 5 8 9 10 11 12 14

Systematic Techniques: 21 28 Ecological Interests: 34 37 40

52

Geographical Areas: east central Illinois; northeast Iowa

Organism Specialties:

Ecological Expertise: wildlife population dynamics

Dr. Robert W. Guth Executive Director RPF Ecological Associates, Inc. 727 Reba Place Evanston, IL 60202-2616

Ph.D. Northwestern University 1980 Phone (312) 328-5915

#134 Mrs. Martha E. Hall Phycologist WAPORA Inc. 11916 Glenpark Drive Maryland Heights, MO 63043

M.S. Eastern Illinois University 1974 Phone (314) 298-0163

#135

Dr. Robert W. Hamilton Professor Loyola University of Chicago Department of Biology 6525 North Sheridan Road Chicago, IL 60626

Ph.D. Ohio State University 1969 Phone (312) 274-3000 Ext. 3628

#136

Dr. Lonnie Paul Hansen Assistant Wildlife Ecologist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1978 Phone (217) 333-6856

#137

Mr. Philip C. Hanson Head of Group Programs Field Museum of Natural History Department of Education Roosevelt Road at Lake Shore Drive Chicago, IL 60605

M.S. Northeastern Illinois University 1975 Phone (312) 922-9410 Ext. 201

#138

Mr. Dennis M. Harman Graduate Student Southern Illinois University Department of Zoology Carbondale, IL 62901

M.A. So. Illinois Univ.-Carbondale 1978 Phone (618) 536-2314 Organisms Worked With: 1 9
Systematic Techniques: 21
Ecological Interests: 34 35 42 43 45
47 48 50 51 52 58 63

Geographical Areas: northern and central Illinois; northern Indiana Organism Specialties: Columbiformes, Piciformes, Passeriformes

Ecological Expertise: urban birds; agricultural wildlife; prairie vegetation and birds

Organisms Worked With: 7

Systematic Techniques: 20 21 24 27 28 Ecological Interests: 37 38 39 41 42 43 44 45

47 50 52 63 Geographical Areas: Midwest states Organism Specialties: freshwater algae

Ecological Expertise: freshwater phytoplankton and periphyton; limnology

Organisms Worked With: 12 19 Systematic Techniques: 20 21 27 28 Ecological Interests: 34 40 41 42 43 45 48 52 58 66

Geographical Areas: Illinois prairies, especially northern Illinois;

North America

Organism Specialties: Curculionoidea - Nemonychidae, Attelabidae,

Rhynchitidae

Ecological Expertise: arthropod diversity

Organisms Worked With: 8 Systematic Techniques:

Ecological Interests: 34 40 41 42 43 45 46 48 52 55 62

Geographical Areas: Piatt and McClean Counties, Illinois

Organism Specialties:

Ecological Expertise: population dynamics and life history strategies of woodland rodents; harvest, management and ecology of white-tailed deer

Organisms Worked With: 1 Systematic Techniques: Ecological Interests: 35 42 43 52 54 66

Geographical Areas: Cook and adjacent Counties, Illinois

Organism Specialties:

Ecological Expertise: prairie and natural areas; history of disturbance

Organisms Worked With: 8 19 Systematic Techniques: Ecological Interests: 34 35 40 42

 $47\ 48\ 52\ 58$ Geographical Areas: Saline and Jackson Counties, Illinois

Organism Specialties:

Ecological Expertise: Microtus population ecology; life history and ecology of small mammal populations in grassland/old field communities; demographic/reproductive variables related to population growth & density

Mr. Ralph L. Harnishfeger

Researcher II Southern Illinois University Zoology Dept./Coop Wildlife Research Lab Life Science II Carbondale, IL 62901

Ph.D. So. Illinois Univ.-Carbondale 1984 Phone (618) 536-2120

#140

Mr. Francis M. Harty

Regional Administrator Illinois Department of Conservation Div. Forest Resources & Natural Heritage #8 Henson Place Champaign, IL 61820

M.S. So. Illinois Univ.-Carbondale 1979 Phone (217) 333-5773

#141

Mr. Robert Aden Hattaway

Assistant Professor North Park College Department of Biology 5125 N. Spalding Ave. Chicago, IL 60625

M.S. University of Tennessee 1973

Phone (312) 583-2700 Ext. 394

#142

Dr. Larry A. Hauser

Bristol-Meyers Company Biostatistics and Data Management Group Research and Development Division 2404 Pennsylvania Avenue Evansville, IN 47721

Ph.D. University of Notre Dame 1982 Phone (812) 426-6695

#143

Dr. Stephen Paul Havera

Associate Wildlife Ecologist Illinois Natural History Survey Wildlife Section Box 599/River Research Laboratory Havana, IL 62644

Ph.D. University of Illinois 1978 Phone (309) 543-3950

#144

Dr. Robert C. Haynes

Associate Professor Sangamon State University Biology Program Shepherd Road Springfield, IL 62708

Ph.D. University of New Hampshire 1971 Phone (217) 786-6630 Organisms Worked With: 8 9 Systematic Techniques:

Ecological Interests: 34 35 36 37 38 39 41 42 45

48 52 55 58 61 62

Geographical Areas: Jackson and Williamson Counties, Illinois

Organism Specialties:

Ecological Expertise: habitat requirements, management and demography/life history of small game mammals and furbearers

Organisms Worked With: 1 2 3 8 9

Systematic Techniques: 20 21 27

Ecological Interests: 34 35 36 40 41 42 43 45 47 50 52 54 58 59 60 62 66

 $\label{thm:continuous} \mbox{Geographical Areas: northeastern, northwestern, east central and southern Illinois}$

Organism Specialties:

Ecological Expertise: natural areas inventory and management; endangered species inventory and management; synecology of Illinois natural communities

Organisms Worked With: 1 2 3 4 5 6 7

Systematic Techniques: 21 23 27 28 Ecological Interests: 35 36 42 43

47

Geographical Areas: Australasia; Patagonia; Florida Everglades;

southern Appalachians; Georgia

Organism Specialties: Bryophyta - Ptychomniaceae - Ptychomnion, Cladomniopsis, Cladomnion, Hampeella, Glyphothecium, Tetraphidopsis and Dichelodontium

Ecological Expertise: corticolous and saxicolous bryophytes of limestone sinks and associated vascular flora

Organisms Worked With: 1

Systematic Techniques: 20 21 22 23 24 27 28 30

Ecological Interests: 34 40 42

48 50 51 52 55 58 60 65

Geographical Areas: central Illinois; prairies; western North

America, especially the Intermountain region

Organism Specialties: Brassicaceae - Thelypodium, Thelypodiopsis,

Stanleya, Caulanthus Ecological Expertise:

Organisms Worked With: 1 8 9 Systematic Techniques: 20 27 28 31

Ecological Interests: 34 35 36 38 40 41 42 43 44 45

50 57 58

Geographical Areas: Illinois, especially the Illinois and

Mississippi River valleys

Organism Specialties: Anatidae; Sciuridae

Ecological Expertise: nutrition, physiological ecology, population dynamics, management, reproductive physiology of wildlife

Organisms Worked With: 7 13

Systematic Techniques:

Ecological Interests: 38 41 42 43 44

58

Geographical Areas:

Organism Specialties:

Ecological Expertise: freshwater and saline lakes

Dr. James Edward Heath

Professor University of Illinois Department of Physiology & Biophysics 407 S. Goodwin Avenue

Urbana, IL 61801

Phone (217) 333-2832

#146

Dr. Maxine Shoemaker Heath

Visiting Assistant Professor University of Illinois Department of Physiology & Biophysics 524 Burrill Hall/407 South Goodwin Urbana, IL 61801

Ph.D. University of Florida 1978 Phone (217) 333-2832

#147

Dr. Roy C. Heidinger

Professor & Assistant Director Southern Illinois University Fisheries Research Laboratory Carbondale, IL 62901

Ph.D. So. Illinois Univ.-Carbondale 1970 Phone (618) 536-7761

#148

Mr. Randy R. Heidorn

District Heritage Biologist Illinois Department of Conservation Div. of Forest Resources & Nat. Heritage 110 James Road Spring Grove, IL 60081

M.A. So. Illiois Univ.-Carbondale 1982 Phone (815) 675-2385

#149

Mr. Charles George Helm

Associate Supportive Scientist Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Drive Champaign, IL 61820

M.S. University of Illinois 1973

Phone (217) 333-1005

#150

Ms. Alice Scott Henry

RR #1 Macomb, IL 61455

M.S. Western Illinois University 1978 Phone (309) 298-1472 Organisms Worked With: 8 9 10 12 Systematic Techniques: 20 21 27 Ecological Interests: 40 42 43 46 51 57 58 66

Geographical Areas: southwest U.S.A.; northeast U.S.A. woodlands;

Argentina

Organism Specialties: Insecta - Cicadadae Ecological Expertise: adaptation physiology

Organisms Worked With: 12

Systematic Techniques: 20 21 23 27 28 33

Ecological Interests: 40 42

46 51 52 56 57 58 66

Geographical Areas: Arizona, New Mexico, Colorado, Utah, Texas;

Argentina

Organism Specialties: Cicadidae

 ${\bf Ecological\ Expertise:\ insect\ host-plant\ specificity,\ thermoregulation,\ activity\ cycles,\ communication,\ mating,\ predator\ avoidance;\ evolutionary}$

history and biogeography

Organisms Worked With: 11 Systematic Techniques: 22 26 31 Ecological Interests: 37 38 39

46 50 52 57 61 62 64

Geographical Areas: U.S.A. Organism Specialties:

Ecological Expertise:

Organisms Worked With: 1 8 9 10

Systematic Techniques:

Ecological Interests: 34 35 36 38 41 42 43 45

47 50 52 54 62 63 65

Geographical Areas: northeast Illinois

Organism Specialties:

Ecological Expertise: natural areas, especially wetlands and prairies; endangered animal population management, especially terns and bats; control of exotic plants

Organisms Worked With: 1 12 Systematic Techniques: 20 21 22 27 Ecological Interests: 36 41 45 46 52 58 59 65

Geographical Areas: Champaign, DeKalb, Pope, Madison, Monroe, Logan,

Clark, Crawford and Coles Counties, Illinois

Organism Specialties: Chrysomelidae - Cerotoma; Coccinellidae - Epicachna; Noctuidae - Plathypena; Glycine max, Abutilon theophrasti,

Xanthium pennsylvanicum

Ecological Expertise: agroecosystems; sampling of insects; insect

overwintering, spring emergence and migration patterns; insect and weed interference with agricultural crops

Organisms Worked With: 1 2 3 Systematic Techniques: 33 Ecological Interests:

Geographical Areas: west central Illinois Organism Specialties:

Ecological Expertise:

Dr. Robert D. Henry Herbarium Curator Western Illinois University R.M. Myers Herbarium Macomb, IL 61455

Ph.D. Ohio State University 1958 Phone (309) 298-1472

#152

Dr. Edwin E. Herricks Associate Professor University of Illinois Department of Civil Engineering 208 N. Romaine Urbana, IL 61801

Ph.D. Johns Hopkins University 1974 Phone (217) 333-0997

#153

Dr. David Filbert Hess Associate Professor Western Illinois University

Department of Geology Tillman Hall, W. Adams Street Macomb, IL 61455

Ph.D. Indiana University 1967

Phone (309) 837-9362

#154

Dr. William J. Hess

Curator The Morton Arboretum Research Department Lisle, IL 60532

Ph.D. University of Oklahoma 1967 Phone (312) 968-0074

#155

Dr. Clifford W. Hesseltine Chief Fermentation Lab Northern Regional Research Center 1815 N. University Ave. Peoria, IL 61614

Ph.D. University of Wisconsin 1950 Phone (312) 691-9608

#156

Mr. Steve L. Heydon Graduate Student Illinois Natural History Survey Section of Faunistic Surveys 607 E. Peabody Drive Champaign, IL 61820

M.S. University of Illinois 1984 Phone (217) 333-6846 Organisms Worked With: 1 2 3 Systematic Techniques: 33 Ecological Interests:

Geographical Areas: west central Illinois Organism Specialties:

Ecological Expertise:

Organisms Worked With: 11 12

Systematic Techniques:

Ecological Interests: 37 38 39 40 41 42 43 45

47 50 61 62 64

Geographical Areas: Illinois, Colorado, Pennsylvania

Organism Specialties:

Ecological Expertise: aquatic ecology, environmental management, stream system/watershed management

Organisms Worked With: 12 Systematic Techniques: 21 27 28 Ecological Interests: 34 35 40 42 45 46 47 50 58

Geographical Areas: West-central Illinois; Missouri, Arkansas,

Indiana, Ohio & Pennsylvania

Organism Specialties: Cercyonis pegala; Rhopalacera of prairie and

savannah of west-central Illinois

Ecological Expertise: Biology, biogeography & behavior of Cercyonis pegala; ecology of prairie insects, especially Rhopalacera; geological and

physiographic influences on insect distribution

Organisms Worked With: 1

Systematic Techniques: 21 24 27 28 30 31

Ecological Interests: 34 40 42

46

Geographical Areas: southwestern states; southeastern states;

northern Mexico

Organism Specialties: Rosaceae - Vauquelinia, Spiraea; Aceraceae;

Caprifoliaceae; Eriogonum; Tilia; Symplocarpus; Cornus

Ecological Expertise: phenology as it relates to energy release and

pollination

Organisms Worked With: 5 Systematic Techniques: 27 28 Ecological Interests: 35 38 41 43

Geographical Areas: Illinois; worldwide

Organism Specialties: Mucorales, Phycomycetes

Ecological Expertise: fungi in cultivated fields, especiallu corn

fields

Organisms Worked With: 12 Systematic Techniques: 23 27 30 Ecological Interests: 35 40 42

48

Geographical Areas: Champaign County, Illinois; eastern states

Organism Specialties: Hymenoptera - Pteromalidae - Miscogasterinae

Ecological Expertise:

Dr. Larry R. Hoffman

Professor University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

Ph.D. University of Texas 1961 Phone (217) 333-0048

#158

Dr. Donald F. Hoffmeister

Director University of Illinois Museum of Natural History 1301 W. Green Street Urbana, IL 61801

Ph.D. Univ. of California-Berkeley 1944 Phone (217) 333-2517

#159

Dr. Joyce E. Hofmann

Visiting Research Associate University of Illinois Dept. of Ecology, Ethology & Evolution 606 E. Healey Street Champaign, IL 61820

Ph.D. University of Illinois 1978 Phone (217) 333-1631

#160

Mr. Kevin P. Hogan

Graduate Student University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

M.S. University of Illinois 1982 Phone (217) 333-4396

#161

Mr. Eugene W. Holmes

706 W. Eleanor Place Peoria, IL 61604

M.A. Bradley University 1956 Phone (309) 685-5661

#162

Mr. Bruce W. Horn Microbiologist Northern Regional Research Center Fermentation Laboratory 1815 N. University Peoria, IL 61604

M.A. University of Kansas 1980 Phone (309) 685-4011 Organisms Worked With: 7

Systematic Techniques: 24 27 28 30 31 33

Ecological Interests:

Geographical Areas: worldwide

Organism Specialties: green algae - Oedogoniales, Sphaeropleales, Cylindrocapsales Ecological Expertise:

Organisms Worked With: 8 Systematic Techniques: 21 27 28

Ecological Interests: 34

Geographical Areas: Illinois; Arizona; much of the Southwest; parts of

Mexico

Organism Specialties: mammals, especially Peromyscus, other cricetine

rodents, bats and shrews

Ecological Expertise: life history of various rodents and other mammals

Organisms Worked With: 8 Systematic Techniques:

Ecological Interests: 34 40 43 45

46 48 52

Geographical Areas: Champaign County, Illinois

Organism Specialties:

Ecological Expertise: population dynamics and behavioral ecology of small mammals

Organisms Worked With: 1 Systematic Techniques: Ecological Interests: 34 40 42

48 49 51 55 57 59

Geographical Areas: Panama

Organism Specialties:

Ecological Expertise: plant demography, ecology of plant architecture, plant physiological ecology

Organisms Worked With: 10 Systematic Techniques: 26 Ecological Interests: 34 40 42 45

50

Geographical Areas: Peoria, Tazewell and Woodford Counties, Illinois

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 5 Systematic Techniques:

Ecological Interests: 34 35 40 41 42 44

48 57 58 59 63 64

Geographical Areas:

Organism Specialties: Penicillium, Aspergillus

Ecological Expertise: ecology of cereal fungi

Dr. Lynne D. Houck Assistant Professor University of Chicago Department of Biology 1103 E. 57th Street Chicago, IL 60637

Ph.D. Univ. of California-Berkeley 1977 Phone (312) 962-3401

#164

Mr. George F. Hubert Jr Furbearer Biologist Illinois Department of Conservation Division Fish & Wildlife Resources P.O. Box 728 Hinckley, IL 60520-0728

M.S. Colorado State University 1974 Phone (815) 286-7434

#165

Dr. Michael J. Huft Visiting Assistant Curator Field Museum of Natural History Department of Botany Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. University of Michigan 1979 Phone (312) 922-9410

#166

Dr. Lawrence Barrie Hunt Professor

Eastern Illinois University Department of Zoology Charleston, IL 61920

Ph.D. University of Wisconsin-Madison 1968 Phone (217) 581-2817

#167

Mr. Max Donald Hutchison

Field Representative Natural Land Institute RR 1 Belknap, IL 62908

B.S. Southern Illinois University 1961 Phone (618) 658-8654

#168

Dr. Theodore Hymowitz

Professor University of Illinois Department of Agronomy 1102 South Goodwin Ave. Urbana, IL 61801

Ph.D. Oklahoma State University 1963 Phone (217) 333-9454 Organisms Worked With: 10 Systematic Techniques: 31 Ecological Interests: 34 40 42 46 48 51

Geographical Areas: North Carolina, Tennessee, Virginia

Organism Specialties: Urodeles: Plethodontidae - Desmognathus; Ambystomatidae - Ambystoma

Ecological Expertise: life history studies

Organisms Worked With: 8 Systematic Techniques:

Ecological Interests: 34 36 41 42 43 45

48 52 62 Geographical Areas: Illinois

Organism Specialties:

Ecological Expertise: wildlife and furbearer management, furbearer biology

Organisms Worked With: 1 Systematic Techniques: 21 27 28 30

Ecological Interests:

Geographical Areas: southern states; Neotropics, especially Mexico and

Central America

Organism Specialties: Euphorbiaceae; Loganiaceae; Eriocaulaceae;

Amaryllidaceae - Hypoxis Ecological Expertise:

Organisms Worked With: 9
Systematic Techniques:
Ecological Interposts: 24,35,40,46

Ecological Interests: 34 35 40 42 43 46 48 52 63

Geographical Areas: Coles County and east central Illinois; Sonoran

Desert, Arizona Organism Specialties:

Ecological Expertise: migrational phenology, breeding biology and seral

preferences of midwestern birds

Organisms Worked With: 1 2 3 8 9 10 11 12

Systematic Techniques: 21

Ecological Interests: 35 36 38 39 40 41 42

47 50

Geographical Areas: southern Illinois; southern Indiana

Organism Specialties:

Ecological Expertise: presettlement landscape character

Organisms Worked With: 1

Systematic Techniques: 21 22 24 26 27 33

Ecological Interests:

Geographical Areas: Australia, South Pacific; East Asia

Organism Specialties: Fabaceae - Glycine and allied genera

Ecological Expertise:

Mr. Francis M. Imboden

District Fishery Biologist Illinois Department of Conservation Division Fish & Wildlife Resources P.O. Box 3 Sparta, IL 62286

M.S. So. Illinois Univ.-Carbondale 1974 Phone (618) 443-2925

#170

Dr. Robert F. Inger

Curator Field Museum of Natural History Department of Zoology

Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. University of Chicago 1954 Phone (312) 922-9410

#171

Dr. Michael E. Irwin

Associate Professor Illinois Natural History Survey Agricultural Entomology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Univ. of California-Riverside 1971 Phone (217) 333-1965

#172

Mr. Roderick R. Irwin

Research Affiliate Illinois Natural History Survey Section of Faunisitic Surveys 24 East 99th Place Chicago, IL 60628

B.A. Chicago State University 1980 Phone (312) 468-1124

#173

Dr. Louis Robert Iverson

Assistant Professional Botanist Illinois Natural History Survey Section of Botany & Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of North Dakota 1981 Phone (217) 333-8907

#174

Dr. Joseph D. Ives

Associate Professor Western Illinois University Department of Biological Sciences Macomb, IL 61455

Ph.D. University of Minnesota 1967 Phone (309) 298-1164 Organisms Worked With: 11
Systematic Techniques:

Ecological Interests: 37 41 42 43 44 45 52 61 62 65

Geographical Areas: Clinton, Monroe, Randolph, St. Clair and

Washington Counties, Illinois Organism Specialties:

Ecological Expertise:

Organisms Worked With: 10 Systematic Techniques: 21 27 33 Ecological Interests: 34 35 40 42 42

47 51 47 50

Geographical Areas:

Organism Specialties: anurans, lizards, snakes

Ecological Expertise: organization and evolution of communities; population fluctuations; diversity

Organisms Worked With: 1 12 Systematic Techniques: 21 22 23 27 31 Ecological Interests: 36 40 41 42 45 46 51 54 58

Geographical Areas: worldwide

Organism Specialties: Diptera - Thereuidae, Cracycera

 ${\bf Ecological\ Expertise:\ behavioral\ ecology,\ agroecosystems,\ desert}$

ecosystems, sandy soils, dispersal and migration

Organisms Worked With: 12 Systematic Techniques: 20 27 28 Ecological Interests: 34 42 48 52 Geographical Areas: Illinois

Organism Specialties: Lepidoptera

Ecological Expertise: distribution of butterflies in Illinois

Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 36 41 42 43

50 54 56 57 59 60 61 62 63

Geographical Areas:

Organism Specialties:

Ecological Expertise: reclamation of mined lands

Organisms Worked With: 1 2 3 4 Systematic Techniques: 21

Ecological Interests: 34 35 38 40 42 43

47 48 50 58 59 60 61 63

Geographical Areas: west central Illinois; Midwest states; Belize Organism Specialties:

Ecological Expertise: plant community relationships and successional processes; microclimatic effects on individuals, populations and communities; raptorial bird habitat analysis and evaluation

Mr. Robert J. Izor Collection Manager Field Museum of Natural History Division of Mammals Roosevelt Road at Lake Shore Drive Chicago, IL 60605

B.S. Beloit College-Wisconsin 1973 Phone (312) 922-9410 Ext. 249

#176

Dr. Larry A. Jahn

Professor Western Illinois University Department of Biological Sciences Macomb, IL 61455

Ph.D. Montana State University 1968 Phone (309) 298-1266

#177

Dr. Alan P. Jaslow Postdoctoral Fellow University of Chicago Department of Anatomy 1025 E. 57th Street

Chicago, IL 60637

Ph.D. University of Michigan 1982 Phone (312) 962-8091

#178

Dr. Michael Robert Jeffords

Assistant Professional Scientist Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois-U.C. 1978 Phone (217) 333-6250

#179

Dr. Norman H. Jensen

Assoc. Prof. & Acting Chairman Millikin University Department of Biology 1184 W. Main Street Decatur, IL 62522

Ph.D. Univ. of Nebraska-Lincoln 1972 Phone (217) 424-6230

#180

Dr. Robert Karl Johnson

Curator & Chairman Field Museum of Natural History Department of Zoology Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. Univ. of Calif.-San Diego-Scripps 1972 Phone (312) 922-9410 Organisms Worked With: 8

Systematic Techniques: 20 21 23 27 28 Ecological Interests: 35 40 42 43

46 51

Geographical Areas: Illinois; Neotropics

Organism Specialties: carnivores; primates; bats

Ecological Expertise: faunal survey and analysis; host-parasite

associations

Organisms Worked With: 11

Systematic Techniques:

Ecological Interests: 37 38 39 40 41 42 43 44 45

46 52 58 61 62 66

Geographical Areas: west central Illinois

Organism Specialties: Percichthyidae, Centrarchidae, Ictaluridae,

Clupeidae

Ecological Expertise: lake and pond fish management; natural history of

fish in rivers and streams

Organisms Worked With: 10 Systematic Techniques: 20 27 33 Ecological Interests: 34 35 37 40 42 46 48 51 58

Geographical Areas: Michigan, Wisconsin; Panama

Organism Specialties: anurans

Ecological Expertise: population regulation in tadpoles; communications in adult anurans

Organisms Worked With: 12 Systematic Techniques:

Ecological Interests: 34 40 41 42 43 44 45

46 48 50 51 52 55 58

Geographical Areas: northeastern Illinois

Organism Specialties:

Ecological Expertise: population biology of economically important forest and field crop pests; evolutionary biology of predaceous insects

and vertebrates

Organisms Worked With: 9 11 Systematic Techniques: 21 31 Ecological Interests: 36 39 43

48 50 58

Geographical Areas:

Organism Specialties:

Ecological Expertise: aquatic biology

Organisms Worked With: 11

Systematic Techniques: 20 21 23 27 28 30 31

Ecological Interests: 37 38 39 40 42

47 48 51 52

Geographical Areas: worldwide, especially western Caribbean

Organism Specialties: mesopelagic fishes: Stomiiformes, Myctophiformes, Chiasmodontidae; shallow-water fishes: Blennioidei, Gobioidei

Ecological Expertise:

Dr. Almut G. Jones

Curator & Assistant Professor University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Ave. Urbana, IL 61801

Ph.D. University of Illinois 1973 Phone (217) 333-2522

#182

Mr. Dan W. Jones Head of Biology Section Peabody Coal Company Central Laboratory P.O. Box 39 Freeburg, IL 62243

B.A. So. Illinois Univ.-Edwardsville 1969 Phone (618) 539-5113

#183

Ms. Jeanine E. Karnes

Technical Assistant Illinois Natural History Survey Department of Botany and Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

M.S. Northern Illinois University 1981 Phone (217) 333-8907

#184

Dr. James R. Karr

Deputy Director Smithsonian Tropical Research Institute P.O. Box 2072 Balboa, Panama

Ph.D. University of Illinois 1970

#185

Ms. Carol Anne Kelly

Graduate Student University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

M.A. University of Iowa 1983 Phone (217) 333-1298

#186

Mr. Jerome Kelly

Biologist Ecology & Environment Inc. 223 W. Jackson Blvd. Chicago, IL 60606

M.S. University of Miami 1970 Phone (312) 663-9415 Organisms Worked With: 1

Systematic Techniques: 21 23 24 28 30

Ecological Interests:

Geographical Areas:

Organism Specialties: Astereae - Asteraceae - Aster and related genera

Ecological Expertise:

Organisms Worked With: 10 11 12 13 15 16

Systematic Techniques: 20

Ecological Interests: 37 38 39 41 42 43 45

 $50\ 52\ 61$

Geographical Areas: St. Clair, Randolph, Saline, and Williamson

Counties, Illinois; Indiana; Kentucky; Missouri

Organism Specialties: Midwest fishes; Chironomidae; Illinois mussels

Ecological Expertise: aquatic ecology, especially as related to coal mining disturbance and reclamation

Organisms Worked With: 1 8 9

Systematic Techniques: Ecological Interests: 36 40 42

58

Geographical Areas: northern and central Illinois

Organism Specialties:

Ecological Expertise: small mammal ecology

Organisms Worked With: 9 11

Systematic Techniques: 21

Ecological Interests: 34 35 36 37 38 39 40 41 42 43 45

47 50 54 62

Geographical Areas: Champaign and Vermilion Counties, Illinois;

Indiana; Panama

Organism Specialties: birds, fishes

Ecological Expertise: tropical ecology, aquatic ecology, community

ecology, natural resources, water resources

Organisms Worked With: 1 2 3 12

Systematic Techniques: 21 28 31

Ecological Interests: 34 35 36 37 38 40 42 43

48 51 52 57 58 59 60 63

Geographical Areas: U.S.A.

Organism Specialties: Fabaceae - Cassia

Ecological Expertise: plant-animal interactions

Organisms Worked With: 1 11 12 13 15 16

Systematic Techniques: 21 27 Ecological Interests: 38 39 41 43

47 50 64

Geographical Areas: Midwest states; Florida Organism Specialties: aquatic macroinvertebrates

Ecological Expertise: aquatic ecology; effects of hazardous substances on aquatic communities

Mr. Martin P. Kemper
District Wildlife Biologist
Illinois Department of Conservation
Division Fish & Wildlife Resources
307 W. Alton
Nashville, IL 62263

M.A. So. Illinois Univ.-Carbondale 1976 Phone (618) 327-4158

#188

Ms. Kathryn A. Kerr

Consultant

RR 1 Box 247 Urbana, IL 61801

B.A. So. Illinois Univ.-Carbondale 1971 Phone (217) 643-7571

#189

Ms. Phyllis Kerstein

President Advanced Exterminating Service Inc. 1356 S. Michigan Avenue Chicago, IL 60605

B.A. Roosevelt University 1948 Phone (312) 427-5800

#190

Dr. Kenneth J. Kessler Jr Principal Plant Pathologist USDA N. Central Forest Expt. Stat. Forestry Sciences Lab Southern Illinois University

Carbondale, IL 62901 Ph.D. West Virginia University 1960

#191

Dr. John B. Kethley

Phone (618) 453-2318

Associate Curator & Division Head Field Museum of Natural History Division of Insects Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. University of Georgia 1969

Phone (312) 922-9410

#192

Ms. Michelle K. Kettler

Research Assistant University of Illinois Department of Genetics & Development 515 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

M.S. St. Louis University 1980 Phone (217) 333-8001 Organisms Worked With: 1 8 9

Systematic Techniques:

Ecological Interests: 36 41 42 45

54 58 62

Geographical Areas: Randolph, Monroe, St. Clair, Clinton and

Washington Counties, Illinois Organism Specialties:

Ecological Expertise: wildlife habitat assessment and manipulation; plant community management; conservation of natural ecosystems; avian ecology

Organisms Worked With: 1

Systematic Techniques: 20 21 30 31

Ecological Interests: 34 35 36 37 38 39 41 42 45

47 50 52 59 60

Geographical Areas: Midwest states

Organism Specialties:

Ecological Expertise: natural areas - forest, savanna, prairie, glade wetlands

Organisms Worked With: 8 9 10 12 14

Systematic Techniques: 27 28 31 Ecological Interests: 41 44

46 50 64

Geographical Areas: Chicago and surrounding suburbs, Illinois;

northwest Indiana

Organism Specialties: rodents and insects

Ecological Expertise: urban communities

Organisms Worked With: 1 5

Systematic Techniques: 20 27 28 31 Ecological Interests: 36 41 42 44 45

48 50 59

Geographical Areas: southern Illinois, Iowa, Missouri, Minnesota,

Wisconsin, Indiana, Michigan

Organism Specialties: Juglandaceae, Fagaceae, Betulaceae, Oleaceae,

Aceraceae; Ascomycetes, Fungi imperfecti

Ecological Expertise: epidemiology of fungal leaf diseases of hardwoods

Organisms Worked With: 14 19 Systematic Techniques: 20 21 23 28

Ecological Interests: 34 35 40 42 43

48

Geographical Areas: Midwest states; worldwide

Organism Specialties: Acari - Prostigmata (excluding plant mites & water mites); Mesostigmata - Eviphidoidea, Heterozerconoidea, Holothyroidea,

Sejina, Trigynaspida

Ecological Expertise: deep soil acaro fauna; ecology of avian acarine

parasites

Organisms Worked With: 11 Systematic Techniques: 22 24 26 Ecological Interests: 34 36 37 39 40 42

51

Geographical Areas: northern Illinois, Wisconsin, Washington, North

Carolina

Organism Specialties: Umbridae, Esocidae, Salmonidae

Ecological Expertise:

Ms. Frances B. King Research Associate Illinois State Museum Department of Botany Spring and Edwards Springfield, IL 62707

M.S. University of Arizona 1972 Phone (217) 785-4846

#194

Dr. James E. King Head of Scientific Sections Illinois State Museum Spring and Edwards Springfield, IL 62706

Ph.D. University of Arizona 1972 Phone (217) 782-7475

#195

Mr. Brian J. Klatt Graduate Research Assistant University of Illinois Dept. of Ecology, Ethology & Evolution 606 E. Healey Street Champaign, IL 61820

M.S. Northern Illinois University 1979 Phone (217) 333-2235

#196

Mr. Vernon M. Kleen Avian Ecologist Illinois Department of Conservation Div. Forest Resources & Nat. Heritage 524 S. 2nd Springfield, IL 62706

M.A. So. Illinois Univ.-Carbondale 1973 Phone (217) 785-8774

#197

Mr. Kenneth F. Klick

120 Kingston Bolingbrook, IL 60439

A.S. Moraine Valley Community College 1983 Phone (312) 739-5739

#198

Dr. W. D. Klimstra Professor & Director Coop. Lab. Southern Illinois University Cooperative Wildlife Research Laboratory Life Science II, Room 251

Carbondale, IL 62901

Ph.D. Iowa State University 1949 Phone (618) 536-7766 Organisms Worked With: 1 Systematic Techniques: 20 21 Ecological Interests:

53 54 66

Geographical Areas: Illinois, Midwest states

Organism Specialties:

Ecological Expertise: paleoecology, plants used by prehistoric Amerindians

Organisms Worked With: 1 2 3 Systematic Techniques: Ecological Interests: 34 35 40 42 48 63 66

Geographical Areas: midwestern North America

Organism Specialties:

Ecological Expertise: palynology and paleoecology

Organisms Worked With: 8
Systematic Techniques:
Ecological Interests: 34 35 40 41 43 45
46 48 52 58 62 66

Geographical Areas: Champaign and Grundy Counties, Illinois; Indiana

Organism Specialties:

Ecological Expertise: community and population ecology, behavioral ecology

Organisms Worked With: 9 Systematic Techniques:

Ecological Interests: 34 35 36 42 43 44 45

50 52 Geographical Areas: Illinois

Organism Specialties: all non-game birds

Ecological Expertise: bird distribution and abundance

Organisms Worked With: 1 2 3 7 9 10

Systematic Techniques: 27 28

Ecological Interests: 34 35 36 40 42 43 45

47 50 52 54

Geographical Areas: northeastern Illinois, northwestern Indiana Organism Specialties: freshwater Rhodophyta - Bangiales

Ecological Expertise: floristics; natural area management

Organisms Worked With: 1 8 9
Systematic Techniques: 20 21 27 28 31 32
Ecological Interests: 34 35 36 40 41 42 43 45

46 48 50 52 54 58 59 60 61 62 63 Geographical Areas:

Organism Specialties:

Ecological Expertise:

Mrs. Genevieve J. Kline

Northern Illinois University
Department of Biological Sciences
De Kelly II 60115

De Kalb, IL 60115

A.B. Wellesley College 1962 Phone (815) 753-1459

#200

Dr. Marcos Kogan

Professor Illinois Natural History Survey Section of Economic Entomology

607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of California-Riverside 1969 Phone (217) 333-1005

#201

Dr. Christopher C. Kohler

Assistant Professor Southern Illinois University Fisheries Research Laboratory Rm 183 Life Science II Carbondale, IL 62901

Ph.D. Virginia Polytechnic Institute 1980

Phone (618) 453-2890

#202

Dr. Kipp Colby Kruse Associate Professor Eastern Illinois University Department of Zoology Charleston, IL 61920

Ph.D. University of Nebraska 1978 Phone (217) 581-5410

#203

Mr. John H. Kube

Forest Wildlife Biologist Illinois Department of Conservation

P.O. Box 298

Petersburg, IL 62675

M.S. University of Wisconsin 1978 Phone (217) 632-3841

#204

Dr. M. L. Kumler

Professor Southern Illinois University Department of Biological Sciences

Box 65B

Edwardsville, IL 62026-1001

Ph.D. Oregon State University 1963 Phone (618) 692-2109 Organisms Worked With: 1

Systematic Techniques: 20 21 23 24 26 27 28 31

Ecological Interests:

Geographical Areas: U.S.A., Canada, Mexico

Organism Specialties: Agrimonia (North and Central America)

Ecological Expertise:

Organisms Worked With: 12

Systematic Techniques: 20 21 22 27 28 Ecological Interests: 34 35 40 41 42 45

46 52 58

Geographical Areas: central and southern Illinois; Brazil; Korea;

China; Japan; Thailand

Organism Specialties: Coleoptera; Strepsiptera

Ecological Expertise: ecology of Coleoptera associated with legumes; population dynamics; sampling methods; nutritional ecology; host selection behavior; plant defense strategies; chemical ecology

Organisms Worked With: 11 13

Systematic Techniques: 20 27 Ecological Interests: 37 38 39 40 41 42 43 44 45

50 52 62

Geographical Areas: southern Illinois; Haiti; Brazil

Organism Specialties: Alosa pseudohareugus

Ecological Expertise: fish predator and prey interactions; exploitation

effects on fish communities

Organisms Worked With: 10 11 12

Systematic Techniques: 31

Ecological Interests: 34 37 40 42 43 44

46 51

Geographical Areas: southern Illinois

Organism Specialties: Ranidae - Rana pipiens complex

Ecological Expertise: behavioral ecology (sexual selection and optimal

foraging theory) and reproductive biology of Anurans

Organisms Worked With: 8 Systematic Techniques:

Ecological Interests: 34 36 41 42 45

46 48 53 58 62 63

Geographical Areas: Illinois Organism Specialties:

Ecological Expertise: deer management

Organisms Worked With: 1 2 3 Systematic Techniques: 21 28

Ecological Interests: 34 35 40 41 42 43

47 49 56 59 60 63

Geographical Areas: Madison and St. Clair Counties, Illinois; Oregon

coast; Afghanistan, India, Pakistan

Organism Specialties:

Ecological Expertise: plant community ecology, nitrogen fixation

Dr. Cletus P. Kurtzman Research Leader USDA Northern Reg. Research Center ARS Culture Collection 1815 N. University Street Peoria, IL 61604

Phone (309) 685-4011

#206

Dr. Wallace E. LaBerge Section Head, Taxonomist Illinois Natural History Survey Section of Faunistic Surveys 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Kansas 1955 Phone (217) 333-6846

#207

Dr. Herbert F. Lamp

Associate Dean Northeastern Illinois University College of Arts & Sciences 5500 N. St. Louis Avenue Chicago, IL 60625

Ph.D. University of Chicago 1951 Phone (312) 583-4050 Ext. 720

#208

Dr. William O. Lamp

Assistant Professional Scientist Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Nebraska 1980 Phone (217) 333-7430

#209

Mr. Wayne A. Lampa

Resource Management Specialist Forest Preserve District DuPage Co. Natural Resources Department P.O. Box 2339, 185 Spring Ave. Glen Ellyn, IL 60138

M.S. Louisiana State University 1965 Phone (312) 790-4900

#210

Dr. Richard Weldon Larimore

Aquatic Biologist Illinois Natural History Survey Aquatic Biology Section 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Michigan 1950 Phone (217) 333-6889 Organisms Worked With: 5

Systematic Techniques: 21 22 24 26 27 28 33

Ecological Interests:

Geographical Areas:

Organism Specialties: Ascomycetous and Basidiomycetous yeasts

Ecological Expertise:

Organisms Worked With: 12

Systematic Techniques: 20 21 23 27 28 30

Ecological Interests: 34 40 42

46 51 58

Geographical Areas: North America and Central America

Organism Specialties: Insecta - Hymenoptera, Apoidea

Ecological Expertise:

Organisms Worked With: 1 2 3

Systematic Techniques: 28

Ecological Interests: 35 38 40 42 43 47 57 59 63

Geographical Areas: Cook County, northern Illinois; northern Indiana,

southern Michigan Organism Specialties:

Ecological Expertise:

Organisms Worked With: 12

Systematic Techniques:

Ecological Interests: 34 35 37 40 41 42 45

46 48 54 58 65

Geographical Areas: Champaign and St. Clair Counties, Illinois

Organism Specialties:

Ecological Expertise: weed/insect interactions, insect ecology, pest

management

Organisms Worked With: 1 2 3 4 5 6 8 9 11 12

Systematic Techniques:

Ecological Interests: 34 35 36 37 38 39 41 42 43 45

47 48 50 52 54 58 59 60 62 63

Geographical Areas: DuPage County, Illinois

Organism Specialties:

Ecological Expertise: plant communities of DuPage County, their ecology, distribution, natural histories, management and restoration needs

Organisms Worked With: 11 12 Systematic Techniques:

Ecological Interests: 38 40 42

46 50 63

Geographical Areas: Vermilion County, Illinois

Organism Specialties: Centrarchidae

Ecological Expertise: warmwater stream communities

Dr. Ronald P. Larkin

Assistant Wildlife Ecologist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Rockefeller University 1973 Phone (217) 333-7513

#212

Dr. Ingemar W. Larson

Professor Augustana College Biology Department Rock Island, IL 61201

Ph.D. Kansas State University 1964 Phone (309) 794-7361

#213

Dr. George V. Lauder

Assistant Professor University of Chicago Department of Anatomy 1025 E. 57th Street Chicago, IL 60637

Ph.D. Harvard University 1979 Phone (312) 962-8090

#214

Dr. Richard Lee Leary

Curator Illinois State Museum Geology Department Spring and Edwards Springfield, IL 62706

Ph.D. University of Illinois 1980 Phone (217) 782-6633

#215

Dr. Kwok W. Lee

Associate Professor George Williams College Division of Natural & Health Sciences 55531stStreet Downers Grove, IL 60515

Ph.D. University of Texas-Austin 1973 Phone (312) 964-3100

#216

Dr. Bruce F. Leon

Assistant Professor University of Illinois Department of Landscape Architecture 1301 W. Gregory Drive Urbana, IL 61801

Ph.D. Princeton University 1979 Phone (217) 333-3612

Organisms Worked With: 9 12 Systematic Techniques: Ecological Interests: 42 43 46 52 57 66

Geographical Areas: Champaign County, Illinois; Marquette County,

Michigan

Organism Specialties:

Ecological Expertise: avian migration, flocking, orientation, energetics, roosting, flight, homing and communication; insect flight and dispersal; small-scale motions of the lower atmosphere

Organisms Worked With: 12 15 Systematic Techniques: 27 28 Ecological Interests:

Geographical Areas: Rock Island County, Illinois

Organism Specialties: insects

Ecological Expertise:

Organisms Worked With: 10 11 Systematic Techniques: 20 23 27 Ecological Interests:

Geographical Areas: northern Illinois

Organism Specialties: Centrarchidae, Amiidae, Lepisosteidae

Ecological Expertise:

Organisms Worked With: 19 Systematic Techniques: 21 27 28 **Ecological Interests:**

Geographical Areas: western Illinois; Illinois and adjacent states

Organism Specialties: "Coal Age" plant fossils - early Pennsylvanian Ecological Expertise: paleobotany of early Pennsylvanian "uplands"

Organisms Worked With: 7 Systematic Techniques: 24 27 28 31 Ecological Interests: 34 35 36 37 38 39 40 42

Geographical Areas: Lake County (Volo Bog) and DuPage County, Illinois

Organism Specialties: Chlorophycean, Xanthophycean and Eustigmatophycean microalgae in soil and freshwater

Ecological Expertise: algal ecology of soil and freshwater ecosystems

Organisms Worked With: 1 2 11 12 13

Systematic Techniques:

Ecological Interests: 35 36 37 38 40 41 42 43 44 45

50 54 57 59 61 65

Geographical Areas: Champaign, Piatt and Macon Counties, Illinois; coastal areas of Connecticut, Maryland, Delaware and New Jersey Organism Specialties:

Ecological Expertise: salt marsh ecology; ecology of hedgerows; tree shape; root interactions; reclamation of disturbed lands; land use effects on water quality

Dr. Domingo D. J. Leonida District Director O.W.C.P.E.S.A. University of Illinois at Chicago College of Medicine 817 S. Wolcott Ave., 385 Old Gen. Hosp.

Chicago, IL 60680

M.Ph. University of Michigan 1962

Phone (312) 886-5000

#218

Dr. James B. Levenson

Ecologist Argonne National Laboratory Energy & Environmental Systems Division 9700 S. Cass Ave. Argonne, IL 60439

Ph.D. University of Wisconsin-Milwaukee 1976 Phone (312) 972-7476

#219

Dr. Eli Levine

Assistant Professor Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Ohio State University 1977 Phone (217) 333-6826

#220

Dr. Norman D. Levine

Professor University of Illinois College of Veterinary Medicine Urbana, IL 61801

Ph.D. Univ. of California-Berkeley 1937 Phone (217) 333-2766

Mr. Randall B. Lewis Associate Biologist

Ecological Analysts, Inc. 612 Anthony Trail Northbrook, IL 60062

B.A. Blackburn College 1969 Phone (312) 564-3040

#222

Dr. William M. Lewis Visiting Professor Southern Illinois University Fisheries Research Laboratory Carbondale, IL 62901

Ph.D. Iowa State University 1949 Phone (618) 536-7761

Organisms Worked With: 8 12 14 16 18 19

Systematic Techniques: 27 32 33

Ecological Interests: 35 36 37 39 41 42 45 46 48 50 53 57 64 66

Geographical Areas: Logan, Mason, Tazewell and Cook Counties, Illinois

Organism Specialties: RNA viruses, DNA viruses; Chlamydia; bacteria, enterobacteria; amoebae, Entamoeba histolytica, E. Coli; Flagellates: Giardia, Trichomonas; Ciliates; Nematodes; Cestodes; Arachnida Ecological Expertise: microbiologic pathologic processes in man as promoted/inhibited by environmental factors; toxicologic aspects of

environmental assessment

Organisms Worked With: 1 2 3

Systematic Techniques:

Ecological Interests: 35 36 41 42 43

47 50 52 54 61 62

Geographical Areas: Illinois, Midwest states

Organism Specialties:

Ecological Expertise: forest communities, biogeography, natural areas

Organisms Worked With: 12 Systematic Techniques: 31

Ecological Interests: 34 35 36 40 41 44 45

46 48 50 55 57 58 60 62 64

Geographical Areas: Mason and Carroll Counties, northwestern Illinois

Organism Specialties: Lepidoptera - Noctuidae

Ecological Expertise: insect ecology, insect-plant interactions, insect

population dynamics

Organisms Worked With: 18 Systematic Techniques: 20 27 28

Ecological Interests:

Geographical Areas: worldwide

Organism Specialties: Protozoa - Apicomplexa

Ecological Expertise:

Organisms Worked With: 12 13 15 Systematic Techniques: 21 27 Ecological Interests: 38 41 42 43

47 50

Geographical Areas: Mississippi River, especially Pool 14

Organism Specialties: Pelecypoda - Unionidae; Ephemeroptera; Trichoptera

Ecological Expertise: effects of power plants on benthic

macroinvertebrates

Organisms Worked With: 11 Systematic Techniques:

Ecological Interests: 37 38 39 40 41 43 44

50 56

Geographical Areas: Illinois and North Carolina

Organism Specialties:

Ecological Expertise: production of fish in controlled environments;

effects of temperature on fish communities

Dr. Khian K. Liem

Director

The South Cook County Mosquito Abatement District 155th and Dixie Highway Harvey, IL 60426

Ph.D. University of Illinois 1974

Phone (312) 333-4120

#224

Dr. Richard Lee Lindroth

Assistant Professor University of Wisconsin Dept. of Entomology 237 Russell Laboratories, 16

237 Russell Laboratories, 1630 Linden Drive

Madison, WI 53706

Ph.D. University of Illinois-U.C. 1984

Phone (608) 263-6277

#225

Dr. Nicanor Javier Liquido

Post-doctoral Fellow Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Hawaii 1982

Phone (217) 333-8091

#226

Mr. Kenneth L. Litchfield

Resources Planner Illinois Department of Conservation 524 S. 2nd Street

Springfield, IL 62706

M.S. Illinois State University 1983

Phone (217) 782-4543

#227

Dr. Richard Eric Lombard

Associate Professor University of Chicago Department of Anatomy 1025 E. 57th Street Chicago, IL 60637

Ph.D. University of Chicago 1971

Phone (312) 962-8091

#228

Mr. Alvin C. Lopinot

Aquatic Biologist

45 Northcrest Drive Litchfield, IL 62056

M.A. Southern Illinois University 1950

Phone (217) 324-3386

Organisms Worked With: 12 Systematic Techniques: 20 27

Ecological Interests: 34 35 36 37 38 39 40 41 42 43 44 45

Geographical Areas: Cook County, Illinois

Organism Specialties: Diptera - Culicidae - Aedes, Culex, Anopheles, Culiseta, Psorophora, Coquillettidia (Mansonia), Orthopodomyia and

Uranotaenia

Ecological Expertise: insect ecology; mosquito bionomics and control;

toxicology of insecticides

Organisms Worked With: 1 8 Systematic Techniques:

Ecological Interests: 34 40 42 43 48 52 57 58 64

Geographical Areas: Champaign County, Illinois

Organism Specialties:

Ecological Expertise: nutritional ecology and population dynamics of microtine rodents; chemistry and toxicology of plant secondary metabolites

Organisms Worked With: 12

Systematic Techniques:

Ecological Interests: 34 40 41 43

46 57

Geographical Areas: Champaign, Jackson, Pope, Adams, Franklin, Warren

and St. Clair Counties, Illinois

Organism Specialties:

Ecological Expertise: predator-prey interactions, statistical ecology, insect dispersion, insect movement and dispersal, insect demography and

life table analysis

Organisms Worked With: 1 7 Systematic Techniques:

Ecological Interests: 35 36 42

50 60

Geographical Areas: Illinois, especially the Mackinaw River

Organism Specialties: Bacillariophyceae (Diatoms)

Ecological Expertise: aquatic and terrestrial diatom communities

Organisms Worked With: 10

Systematic Techniques: 20 23 25 27 30 33

Ecological Interests:

Geographical Areas:

Organism Specialties: fossil amphibians, primarily Temnospondyli; recent amphibian orders Anura and Urodela, primarily Plethodontidae

Ecological Expertise:

Organisms Worked With: 1 7 11 15

Systematic Techniques:

Ecological Interests: 37 38 39 45

52 62

Geographical Areas:

Organism Specialties:

Ecological Expertise: fisheries biology; freshwater mussels; aquatic

plants

Dr. Kenneth S. Lubinski

Assistant Professional Scientist Illinois Natural History Survey Pool 26 - River Research Lab RR 1 Box 221 Grafton, IL 62037

Ph.D. Virginia Tech 1979 Phone (618) 786-3317

#230

Dr. Daniel Robert Ludwig

Wildlife Biologist
Forest Preserve District DuPage Co.
Natural Resources Department
P.O. Box 2339
Glen Ellyn, IL 60138

Ph.D. University of Calgary 1981 Phone (312) 790-4900 Ext. 283

#231

Mr. Randall W. Lundgren

815 South Fell Ave. Normal, IL 61761

Phone (309) 452-9656

#232

Dr. John F. Lussenhop

Associate Professor University of Illinois Department of Biological Sciences Box 4348 Chicago, IL 60680

Ph.D. University of Wisconsin 1971 Phone (312) 996-4557

#233

Mr. Gary W. Lutterbie

District Fisheries Biologist Illinois Department of Conservation Division of Fish & Wildlife 506 E. 7th Street Gibson City, IL 60936

M.S. Univ. of Wisconsin-Stevens Point 1975

Phone (217) 784-4730

#234

Dr. Michael Lynch Associate Professor University of Illinois Dept. of Ecology, Ethology & Evolution 606 E. Healey Street Champaign, IL 61820

Phone (217) 333-0196

Organisms Worked With: 1 11 15

Systematic Techniques: 21 27

Ecological Interests: 37 38 39 40 41 42 43

46 48 50 55 58 62 64

Geographical Areas: Illinois and Mississippi Rivers and floodplains

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 8 9 10

Systematic Techniques:

Ecological Interests: 34 35 40 41 42 43 45

46 48 50 51 52 58 62

Geographical Areas: DuPage County, Illinois; New Jersey; alpine and

subalpine areas of Alberta, Canada

Organism Specialties:

Ecological Expertise: animal population biology

Organisms Worked With: 12 Systematic Techniques: 28 Ecological Interests: 34 35 40 42 46 48 51 66

Geographical Areas: McLean County, Illinois

Organism Specialties: Coleoptera - Staphylinidae

Ecological Expertise: habitat requirements of the Staphylinidae

Organisms Worked With: 5 12 19

Systematic Techniques:

Ecological Interests: 36 40 41 42 43 45

66

Geographical Areas:

Organism Specialties: Collembola, Acarina

Ecological Expertise: soil biology

Organisms Worked With: 10 11 Systematic Techniques: 26 28 31 Ecological Interests: 37 38 39

46 48 52 62 65 66

Geographical Areas: Vermilion, Champaign, Piatt, DeWitt, Ford, Livingston, Iroquois and McLean Counties, Illinois Organism Specialties: fishes: Centrarchidae, Syprinidae, Esocidae,

Ictaluridae, Percidae, Percichthyidae and Salmonidae;

amphibians and reptiles

Ecological Expertise: population dynamics, age and growth of fishes; field censusing and management of fish populations; treatment of aquatic

vegetation

Organisms Worked With: 13 Systematic Techniques: 22 26 31 Ecological Interests:

48

Geographical Areas:

Organism Specialties: Cladocera - Daphnia

Ecological Expertise: ecological genetics; population biology; biology

of parthenogenesis

Dr. Te Hsiu Ma

Professor

Western Illinois University

Institute for Environmental Management

West Adams Street Macomb, IL 61455

Ph.D. University of Virginia 1959

Phone (309) 298-1457

#236

Ms. Carol J. Mahan

Mammal Ecologist

Illinois Department of Conservation Div. Forest Resources & Nat. Heritage

524 S. 2nd Street

Springfield, IL 62706

M.S. University of Nebraska 1978

Phone (217) 785-8774

#237

Dr. Terrence G. Marsh

North Central College Department of Biology

30 N. Brainard

Naperville, IL 60566

Ph.D. University of Kentucky 1969

Phone (312) 420-3489

#238

Mr. Raymond W. Marshalla

District Wildlife Manager Illinois Department of Conservation

Division Fish & Wildlife Resources

30550 S. Boathouse Road

Wilmington, IL 60481

M.A. So. Illinois Univ.-Carbondale 1977

Phone (815) 476-7622

#239

Mr. Hymen Marx

Curator

Field Museum of Natural History Division of Amphibians & Reptiles

Roosevelt Road at Lake Shore Drive

Chicago, IL 60605

B.S. Roosevelt University 1949

Phone (312) 922-9410

#240

Dr. Bill J. Mathis

Professor and Chairman

Bradley University

Department of Biology

1501 W. Bradley Avenue

Peoria, IL 61625

Ph.D. Oklahoma State University 1965

Phone (309) 676-7611

Organisms Worked With: 1 7 8 19

Systematic Techniques: 24 26

Ecological Interests: 41

50 64

Geographical Areas: McDonough, Peoria and Knox Counties, Illinois;

Qingdan, People's Republic of China

Organism Specialties: Commelinaceae - Tradescantia; Chlorophyceae -

Platymonas (Tetraselmis)

Ecological Expertise: effects of air and water pollutants on chromosomes of Tradescantia, mouse and human lymphocytes; mutagenicity and

clastogenicity of chemicals and radioisotopes in plant and animal systems

Organisms Worked With: 8

Systematic Techniques:

Ecological Interests: 34 35 41 42 43 44 45

50 52 58 62

Geographical Areas: Illinois

Organism Specialties:

Ecological Expertise: bat and cave conservation and management

Organisms Worked With: 1 12

Systematic Techniques: 20 28

Ecological Interests: 34 35 36 37 38 39 40 41 42 43

47 49 50 52 55 58 59 63

Geographical Areas: DuPage and Will Counties, Illinois; Arizona

Organism Specialties: Coleoptera - Curabidae, Zoraptera

Ecological Expertise: cave beetle ecology; environmental assessment

for vegetation and freshwater invertebrates

Organisms Worked With: 1 8 9

Systematic Techniques:

Ecological Interests: 36 39

52 62

Geographical Areas: Will, Kane, Kankakee, Grundy and Kendall Counties,

Illinois

Organism Specialties: game birds and mammals, furbearers

Ecological Expertise: habitat management for game and nongame birds and

mammals

Organisms Worked With: 10

Systematic Techniques: 20 21 23 27 28 30

Ecological Interests:

Geographical Areas: northeast Africa and southwest Asia

Organism Specialties: snakes

Ecological Expertise:

Organisms Worked With: 11 12

Systematic Techniques: 21

Ecological Interests: 37 38 39 41 42 43 44

50 56 58 63

Geographical Areas: central and southern Illinois, especially Peoria

County

Organism Specialties:

Ecological Expertise: primary productivity; lake restoration; stream

pollution, heavy metals in aquatic ecosystems

Mr. Wallace O. Matsunaga

Aquatic Biologist Illinois E.P.A. Division of Water Pollution Control 1701 First Avenue, #600 Maywood, IL 60153

B.A. University of Hawaii 1967 Phone (312) 345-9780

#242

Dr. Linda R. Maxson

Associate Professor & Curator University of Illinois Dept. of Genetics & Development 515 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

Ph.D. University of California 1973 Phone (217) 333-3358

#243

Mr. William E. McClain

District Heritage Biologist Illinois Department of Conservation Div. Forest Resources & Natural Heritage 600 N. Grand West Springfield, IL 62706

M.A. Miami University-Ohio 1969 Phone (217) 782-2361

#244

Mr. John Mark McCleary

Biology Teacher Proviso West High School Science Department 4701 W. Harrison Street Hillside, IL 60162

M.S. Temple University 1969 Phone (312) 449-6400

#245

Mr. Milton Earl McGiffen, Jr.

Assistant Supportive Scientist Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Dr. Champaign, IL 61820

M.S. North Carolina State University 1984 Phone (217) 333-6823

#246

Mr. Bill N. McKnight

Junior Supportive Scientist Illinois Natural History Survey Section of Botany & Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

M.S. Eastern Illinois University 1980 Phone (217) 333-6827

Organisms Worked With: 12 13 15 16 Systematic Techniques: 20 21 27 28 Ecological Interests: 38 39 41 42 43 47 48 50

Geographical Areas: northern Illinois

Organism Specialties: Ephemeroptera, Plecoptera and Trichoptera

(aquatic stages)

Ecological Expertise: effects of pollutional discharges on aquatic

macroinvertebrate communities

Organisms Worked With: 8 10 Systematic Techniques: 21 22 23 32

Ecological Interests:

Geographical Areas: worldwide

Organism Specialties: Hylidae, Leptodactylidae, Dendrobatidae, Myobatrachidae, Cricetidae, Bufonidae and Caudata Ecological Expertise:

Organisms Worked With: 1 3 6 Systematic Techniques: 21 27 28 Ecological Interests: 35 36 42 44 45 52 61 62 63 65

Geographical Areas: central Illinois, especially Jersey, Mason,

Vermilion and Shelby Counties

Organism Specialties:

Ecological Expertise: management of natural ecosystems and establishment of artificial grasslands; natural and re-established prairies

Organisms Worked With: 5 Systematic Techniques: 27 28 Ecological Interests: 42

Geographical Areas: Cook and DuPage Counties, Illinois

Organism Specialties: Myxomycetes

Ecological Expertise:

Organisms Worked With: 1 5 12 18

Systematic Techniques:

Ecological Interests: 34 35 41 44 45

46 48 50 52 55 57 58 65

Geographical Areas: Illinois; southeastern states

Organism Specialties:

Ecological Expertise: insect ecology, physiological ecology, population models, insect population sampling, host plant chemistry, application of ecological techniques to pest management

Organisms Worked With: 1 2 3 4 6

Systematic Techniques: 21 27 Ecological Interests: 35 37 40 42

47 50

Geographical Areas: Illinois, Indiana

Organism Specialties: Bryophyta; endangered and threatened plants

Ecological Expertise: natural areas, relic communities

Dr. J. E. McPherson

Professor Southern Illinois University Department of Zoology Carbondale, IL 62901

Ph.D. Michigan State University 1968 Phone (618) 536-2314

#248

Mr. Jeffery L. Mengler

Graduate Student Northern Illinois University Department of Biological Sciences De Kalb, IL 60115-2854

B.S. Northern Illinois University 1982 Phone (815) 753-0433

#249

Mr. Kenneth Gene Mensing

Regional Manager Illinois E.P.A. Land Pollution Control 117 W. Main Street Collinsville, IL 62234

Phone (618) 345-4606

#250

Mr. Dennis A. Meritt Jr

Assistant Director Lincoln Park Zoological Gardens 2200 N. Cannon Drive Chicago, IL 60614

M.A. Northeastern Illinois University 1974 Phone (312) 294-4660

#251

Dr. David Byron Mertz

Professor University of Illinois at Chicago Department of Biological Sciences Box 4348

Chicago, IL 60680

Ph.D. University of Chicago 1965 Phone (312) 996-5437

#252

Dr. Peter L. Meserve

Associate Professor Northern Illinois University Department of Biological Sciences De Kalb, IL 60115

Ph.D. University of California-Irvine 1972 Phone (815) 753-0433 Organisms Worked With: 12

Systematic Techniques: 20 21 23 27 28 31 Ecological Interests: 34 35 37 38 40 42 43

46 48 51 58

Geographical Areas: Jackson and Union Counties, Illinois

Organism Specialties: Pentatomoidea

Ecological Expertise: life history studies

Organisms Worked With: 1 7 9 Systematic Techniques: Ecological Interests: 35 40 43

47 52 58 59 60 63 65

Geographical Areas: DeKalb and Ogle Counties, Illinois

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 8 11 Systematic Techniques: Ecological Interests: 41 43 50

Geographical Areas: southern Illinois

Organism Specialties:

Ecological Expertise: effect and relationship of waste management

activities on the environment and man

Organisms Worked With: 1 3 8 9 10 Systematic Techniques: 20 21 24 26 28 31 Ecological Interests: 34 35 36 40 42 43 45 46 51 52 58 62

Geographical Areas: Panama, Columbia, Paraguay, Uruguay and Argentina Organism Specialties: Rodentia, Primata, Edentata, Marsupialia,

Caprimugiformes, Testudinidae, Emyididae and Crocodilia

Ecological Expertise: tropical forest, neotropics

Organisms Worked With: 12 Systematic Techniques: Ecological Interests: 34 40 44 46 48 51 55

Geographical Areas:

Organism Specialties: Coleoptera - Tenebrionidae - Tribolium

Ecological Expertise: population ecology and population genetics of

Tribolium; life history theory

Organisms Worked With: 8 Systematic Techniques: 21 27 28 Ecological Interests: 34 35 40 42 45 46 48 52 58

Geographical Areas: Grundy and DeKalb Counties, northwest Illinois;

Chile

Organism Specialties:

Ecological Expertise: small mammal population dynamics, interspecific interactions, plant-herbivore interactions, zoogeography of South American mammals

Dr. Helen Judith Michaels

Research Associate Wayne State University Department of Biological Sciences

Detroit, MI 48201

Ph.D. University of Illinois-U.C. 1985 Phone (313) 973-1523

#254

Dr. Raymond Michael Miller

Microbial Ecologist Argonne National Laboratory Environmental Research Division Argonne, IL 60439

Ph.D. Illinois State University 1975 Phone (312) 972-3395

#255

Mr. William S. Modi

Graduate Assistant University of Illinois Dept. of Ecology, Ethology & Evolution 515 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

M.S. Texas A & M University 1978 Phone (217) 333-4688

#256

Dr. Robert H. Mohlenbrock

Professor Southern Illinois University Department of Botany Carbondale, IL 62901

Ph.D. Washington Univ.-St. Louis 1957 Phone (618) 536-2331 Ext. 27

#257

Dr. Edward O. Moll

Professor Eastern Illinois University Department of Zoology Charleston, IL 61920

Ph.D. University of Utah 1968 Phone (217) 345-7142

Dr. Herbert L. Monoson

Professor **Bradley University** Department of Biology Peoria, IL 61625

Ph.D. University of Illinois 1967 Phone (309) 676-7611 Ext. 478

Organisms Worked With: 1 Systematic Techniques: 21 26 31 Ecological Interests: 34 35 40 42 43

48 51 57 58 59 61 63 65

Geographical Areas: Piatt, Champaign and Vermilion Counties, Illinois

Organism Specialties: Asteraceae (Inuleae)

Ecological Expertise: plant breeding systems, reproductive biology evolutionary ecology

Organisms Worked With: 1 5 Systematic Techniques: Ecological Interests: 35 36 40 42 43 54 56 60 61 63

Geographical Areas: semi-arid regions of the U.S.A.

Organism Specialties:

Ecological Expertise: ecology of mycorrhizae; disturbed ecosystems; edaphic factors and plant distribution; nutrient cycling

Organisms Worked With: 8

Systematic Techniques: 20 21 23 24 26 30 31

Ecological Interests: 34

Geographical Areas:

Organism Specialties: Rodentia - Cricetidae - Microtinae - Microtus,

Peromyscus

Ecological Expertise: rodent life history analyses

Organisms Worked With: 1 2 3 7 Systematic Techniques: 27 28 Ecological Interests: 35 38 40 42

Geographical Areas: Illinois; National Forests throughout the U.S.A. Organism Specialties: Fabaceae, Poaceae, Cyperaceae

Ecological Expertise: community ecology

Organisms Worked With: 10

Systematic Techniques: 20 21 23 30 31 Ecological Interests: 34 37 40 41 42 43 48 50 51 52

Geographical Areas: Illinois River and Mississippi River; Malaysia,

India; Mexico and Panama Organism Specialties: Testudines

Ecological Expertise: autecology, aquatic ecology, wildlife management, conservation of endangered species

Organisms Worked With: 1 5 7 Systematic Techniques: 27 28 Ecological Interests:

Geographical Areas: Mason, Bureau, Putman and Peoria Counties,

Organism Specialties: Moniliales - Moniliaceae - Arhtrobotrys,

Dactylella, Harposporium, etc. Ecological Expertise:

Mr. Robbin C. Moran

Graduate Student Illinois Natural History Survey Section of Botany & Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

M.S. So. Illinois Univ.-Carbondale 1980 Phone (217) 333-6827

#260

Mr. Michael Donald Morin

Resource Planner II, Forester Illinois Department of Conservation Division of Planning Lincoln Tower Plaza, 524 S. 2nd Street Springfield, IL 62706

M.S. Southern Illinois University 1980 Phone (217) 782-4543

#261

Mr. Michael A. Morris

Graduate Assistant Southern Illinois University Department of Zoology Carbondale, IL 62901

M.A. So. Illinois Univ.-Carbondale 1981 Phone (618) 536-2314

#262

Mr. Robert G. Mosher

Biology Instructor Belleville Area College Granite City Center RR 1 Box 187A E. Carondelet, IL 62240

M.S. Eastern Illinois University 1979 Phone (618) 538-7282

#263

Mr. Steven R. Moylan

Aquatic Biologist Lake County Health Department Environmental Engineering Section 3010 Grand Avenue Waukegan, IL 60085

M.S. Millersville State College 1979 Phone (312) 689-6740

#264

Mr. John C. Murphy

Biology Instructor & Chairman Plainfield High School Science Department 16351 S. Peerless Ct. Plainfield, IL 60544

M.A. Governors State University 1974 Phone (815) 436-8167 Organisms Worked With: 1 3 Systematic Techniques: 20 21 24 27 28 Ecological Interests:

Geographical Areas: eastern U.S.A., Latin America

Organism Specialties: ferns and allied plants

Ecological Expertise:

Organisms Worked With: 1
Systematic Techniques:

Ecological Interests: 35 36 42 43 45

47 50 56 58 59 60 61 62 63

Geographical Areas: Illinois

Organism Specialties:

Ecological Expertise: terrestrial ecology, forest habitat types and nutrient cycling; forest resource management; fish and wildlife computer database development

Organisms Worked With: 10

Systematic Techniques: 20 21 22 23 24 26 27 28 31

Ecological Interests:

48 51 52

Geographical Areas: Illinois; western Kentucky and Tennessee

Organism Specialties: Ambystomatidae - Colubridae - Ambystoma, Nerodia

Ecological Expertise: field census; demography/life history

Organisms Worked With: 10 11 12 13 Systematic Techniques: 27 Ecological Interests: 38 39 41 42 43 50 52 64

Geographical Areas: Monroe, St. Clair and Coles Counties, Illinois;

St. Charles County, Missouri

Organism Specialties: fishes and aquatic macroinvertebrates

Ecological Expertise: environmental assessment of streams; relating toxicity of effluents to the community structure of fishes and macro-

Organisms Worked With: 1 7 11 13 19

Systematic Techniques: 27 Ecological Interests: 37 38 40 42 48 50 56 62

Geographical Areas: Lake County, Illinois; Marinette County, Wisconsin

Organism Specialties:

Ecological Expertise: natural lakes and rivers

Organisms Worked With: 10

Systematic Techniques: 20 21 27 28 31 Ecological Interests: 34 35 37 38 40 42 43

46 50 51 52

Geographical Areas: Illinois; eastern U.S.A.; Trinidad and Tobago

(West Indies)

Organism Specialties: Reptilia - Squamata - Coybridae, Crotalidae

Amphibia - Anura - Hylidae - Hyla, Pseudacris

Ecological Expertise: behavioral, geographical and community ecology

Dr. Donal G. Myer Professor and Dean Southern Illinois University Department of Biological Sciences Edwardsville, IL 62026

Ph.D. Ohio State University 1958 Phone (618) 692-3170

#266

Dr. Charles F. Nadler Associate Professor Northwestern University Department of Medicine 303 E. Chicago Avenue Chicago, IL 60611

M.D. Northwestern University 1955 Phone (312) 649-8095

#267

Dr. Virginia L. Naples Assistant Professor Northern Illinois University Department of Biological Sciences De Kalb, IL 60115

Ph.D. University Massachusetts 1980 Phone (815) 753-0433

#268

Dr. Michael Nee Visiting Assistant Curator Field Museum of Natural History Botany Department Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. University of Wisconsin-Madison 1979 Phone (312) 922-9410 Ext. 229

#269

Dr. R. Dan Neely Plant Pathologist Illinois Natural History Survey Section of Botany & Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Missouri 1957 Phone (217) 333-6886

#270

Ms. Deborah A. Neher Graduate Student University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

B.S. McPherson College, Kansas 1984 Phone (217) 333-1298 Organisms Worked With: 16 Systematic Techniques: 20 28 33 Ecological Interests: 37 38 39 40 42 48 50

Geographical Areas: southwestern Illinois; U.S.A. Organism Specialties: helminths of fishes

Ecological Expertise: life histories of digenetic trematodes

Organisms Worked With: 8 Systematic Techniques: 22 24 32

Ecological Interests:

Geographical Areas: northern states (including Alaska); Canada;

U.S.S.R.

Organism Specialties: Rodentia - Sciuridae, Microtinae;

Bovidae - Caprinae Ecological Expertise:

Organisms Worked With: 8 Systematic Techniques: 20 21 23 27 28 33 Ecological Interests:

46 51

Geographical Areas: Central America and South America, especially

Panama and Venezuela; Australia

Organism Specialties: Mammalia - Monotremata, Xenarthra

Ecological Expertise: relations of xenarthrans to their tropical environment

Organisms Worked With: 1 2 3 4 Systematic Techniques: 21 27 28 Ecological Interests: 36 40 47 50 52

Geographical Areas: Wisconsin; Veracruz, Mexico

Organism Specialties: Solanaceae, Ulmaceae, Salicaceae, Verbenaceae, Cucurbitaceae, Amaranthaceae and Molluginaceae Ecological Expertise: evaluation and preservation of natural areas

Organisms Worked With: 1 5 Systematic Techniques: 27 28 Ecological Interests: 36 40 44 59 60

59 60 Geographical Areas: Illinois

Organism Specialties: Ulmus, Quercus, Platanus, Malus, Crataegus,

Juglans

Ecological Expertise: amenity tree and shrub diseases

Organisms Worked With: 1 7 12 Systematic Techniques: 21 33

Ecological Interests: 34 35 36 39 40 41 42 43

49 50 51 55 56 57 59 60 63 64

Geographical Areas:

Organism Specialties: Helianthus annuus

Ecological Expertise:

Mr. Harry G. Nelson

Professor

Roosevelt University Department of Biology 430 S. Michigan Avenue Chicago, IL 60605

B.S. University of Chicago 1945

Phone (312) 341-3681

#272

Dr. Lorin I. Nevling, Jr.

Director

Field Museum of Natural History

Administration

Roosevelt Road at Lake Shore Drive

Chicago, IL 60605

Ph.D. Washington University 1959

Phone (312) 922-9410

#273

Dr. Daniel L. Nickrent

Asst. Professor & Dir. of Herbarium University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Avenue

Urbana, IL 61801

Ph.D. Miami University-Oxford, Ohio 1984

Phone (217) 333-1519

#274

Mr. Leo G. Nico

Fishery Biologist U.S. Army Corps of Engineers Environmental Analysis Branch

215 Central Avenue Collinsville, IL 62234

M.S. 1982

#275

Dr. P. James Nielsen

Professor

Western Illinois University Department of Biology Macomb, IL 61455

Ph.D. University of Nebraska 1968

Phone (309) 298-1483

#276

Mr. H. C. Nilsen

Assistant Professor Eastern Illinois University Department of Zoology Life Science Building Charleston, IL 61920

M.S. University of Illinois 1968

Phone (217) 581-2926

Organisms Worked With: 12

Systematic Techniques: 20 21 23 25 27 28 31 33

Ecological Interests: 37 40 42

51 52 57

Geographical Areas: Illinois; northeast North America; worldwide

Organism Specialties: Coleoptera - Dryopoidea - Dryopidae, Psephenidae,

Elmidae

Ecological Expertise: stream biology

Organisms Worked With: 1

Systematic Techniques: 20 21 24 27 28 29 30 31

Ecological Interests: 36 40 41

52.58

Geographical Areas: Veracruz, Mexico

Organism Specialties: New World Thymelaeaceae

Ecological Expertise:

Organisms Worked With: 1 2

Systematic Techniques: 20 22 27 28 30 31

Ecological Interests:

Geographical Areas: western U.S.A., Mexico

Organism Specialties: Viscaceae (Loranthaceae) - Arceuthobium spp.

Ecological Expertise:

Organisms Worked With: 9 11

Systematic Techniques:

Ecological Interests: 37 38 40 42

46 48 50 52 57

Geographical Areas: Madison County and Kaskaskia River, southwest

Illinois; West Orinoco River basin, Venezuela

Organism Specialties: Cyprinodonts, Gymnotiformes, Serrasalminae

Ecological Expertise: tropical freshwater fish ecology; environmental

assessment; avian surveys

Organisms Worked With: 18 Systematic Techniques: 22 27

Ecological Interests: 37 38 40 41 45

63

Geographical Areas: McDonough County, Illinois

Organism Specialties: ciliates

Ecological Expertise: freshwater protozoa, protozoa of activated sludge,

regulation of sewage plants

Organisms Worked With: 1 10 11 12 13 15 16 18

Systematic Techniques: 20 27

Ecological Interests: 37 38 39 41 42 45

50 52 56 58 59 63

Geographical Areas: Coles County, Illinois

Organism Specialties:

Ecological Expertise: aquatic ecosystems with emphasis on benthic and

periphytic habitats

Dr. Matthew H. Nitecki

Curator

Field Museum of Natural History Department of Geology

Roosevelt Road at Lake Shore Drive

Chicago, IL 60605

Ph.D. University of Chicago 1968

Phone (312) 922-9410

#278

Mr. Charles M. Nixon

Wildlife Ecologist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

M.S. Pennsylvania State University 1959 Phone (217) 333-6856

#279

Mr. Randy W. Nyboer

District Biologist Illinois Department of Conservation Div. Forest Resources & Natural Heritage 2612 Locust Street Sterling, IL 61081

M.S. Eastern Illinois University 1975 Phone (815) 625-2968

#280

Dr. Larrance Michael O'Flaherty

Professor Western Illinois University Department of Biological Sciences Macomb, IL 61455

Ph.D. Oregon State University 1968 Phone (309) 298-1487

#281

Steve Packard

Field Representative The Nature Conservancy 79 W. Monroe

Chicago, IL 60603

Phone (312) 346-8166

#282

Dr. Lawrence M. Page

Ichthyologist Illinois Natural History Survey Section of Faunistic Surveys 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1972 Phone (217) 333-6847 Organisms Worked With: 7 19 Systematic Techniques: 20 21 27 28 33 Ecological Interests: 38 39 40 42

47 51

Geographical Areas: North America, Europe, Asia and Australia

Organism Specialties: Receptaculitales, Radiocyatales and Cyclocrinales

Ecological Expertise: paleoecology

Organisms Worked With: 8 Systematic Techniques: Ecological Interests: 34 42 43 46 48 52 58 62

Geographical Areas: east central Illinois, especially Piatt, Champaign

and Vermilion Counties

Organism Specialties: Mammalia - Cervidae, Sciuridae

Ecological Expertise: demographic/life history studies of tree squirrels and white-tailed deer

Organisms Worked With: 1 2 3 4 8 9 10 Systematic Techniques: 21 22 26 31

Ecological Interests: 34 35 36 40 42 43 45

47 50 52 58 59 60 61 62 63 64 65 66

Geographical Areas: northern and western Illinois; Missouri; Iowa

Organism Specialties: Asteraceae; lichens (foliose, fruticose and squamulose)

Ecological Expertise: natural areas and land assessment; natural community management and classification, field surveys and census; prairies, forest types; small mammal ecology; lead (Pb) contamination

Organisms Worked With: 4 7 Systematic Techniques: 20 21 27 28

Ecological Interests: 37 38 39 40 41 42 43 44

50 58 63 64

Geographical Areas: west central Illinois

Organism Specialties: freshwater algae; bryophytes

Ecological Expertise: phytoplankton ecology

Organisms Worked With: 1 Systematic Techniques: 21

Ecological Interests: 34 35 36 40 41 42 45

54 58 59 60 61 63 65

Geographical Areas: northeastern Illinois

Organism Specialties:

Ecological Expertise: management, restoration and population monitoring of prairies and fens

Organisms Worked With: 11 13

Systematic Techniques: 21 22 23 27 28 30 31

Ecological Interests: 37 40 42 43 46 48 51

Geographical Areas: North America

Organism Specialties: Percidae, Cyprinidae and Camaridae

Ecological Expertise: life histories; natural areas; evolutionary

ecology

Mr. Ronald J. Panzer

Naturalist Northeastern Illinois University Department of Biology 5500 N. St. Louis Avenue Chicago, IL 60626

B.S. Northeastern Illinois University 1980 Phone (312) 583-4050

#284

Dr. Thomas Park Professor Emeritus University of Chicago

Department of Biology 1103 E. 57th Street Chicago, IL 60637

Ph.D. University of Chicago 1932 Phone (312) 643-4299

#285

Dr. Pamela J. Parker Conservation Biologist Chicago Zoological Society Research Department 3300 Golf Road Brookfield, IL 60513

Ph.D. Yale University 1974

Phone (312) 485-0263 Ext. 448

#286

Dr. Judith A. Damery Parrish Research Associate - Forestry University of Illinois Dept. of Plant Biology & Forestry RR 1 Box 24

Ph.D. University of Illinois 1978

Blue Mound, IL 62513

Phone (217) 676-8341

#287

Dr. Bruce D. Patterson

Assistant Curator Field Museum of Natural History Division of Mammals Roosevelt Road at Lake Shore Drive Chicago, IL 60605-2496

Ph.D. New Mexico State University 1981 Phone (312) 922-9410 Ext. 227

#288

Mr. Ray L. Pawley

Curator Chicago Zoological Park Herpetology Department Brookfield, IL 60513

Phone (312) 485-0263

Organisms Worked With: 1 12 Systematic Techniques: 21 Ecological Interests: 35 40 41 42

47 48 50 52 58 Geographical Areas: northeastern Illinois

Organism Specialties:

Ecological Expertise: prairie management; prairie insect communities prairie plant communities

Organisms Worked With: 12 Systematic Techniques: Ecological Interests: 34 43 45 48 55

Geographical Areas:

Organism Specialties:

 ${\bf Ecological\ Expertise:\ population\ ecology;\ laboratory\ studies\ of\ competition}$

Organisms Worked With: 1 6 8

Systematic Techniques:

Ecological Interests: 34 35 36 40 41 43

46 47 48 50 51 52 55 56 57 58 59 60 61 62 63 65 Geographical Areas: Brookfield Conservation Park, Blanchetown,

South Australia

Organism Specialties: Macropodidae, Vombatidae, Lagomorpha, Carnivora; Australian perennial arid zone woody plants, grasses and ephemerals,

and lichens

Ecological Expertise: wildlife ecology

Organisms Worked With: 1 Systematic Techniques: 31

Ecological Interests: 34 35 40 41 42 43 44

47 48 50 51 56 57 58 59 63 65

Geographical Areas: Ford, Champaign and Christian Counties, Illinois;

Comanche County, Oklahoma Organism Specialties:

Ecological Expertise: competition; pollination biology; prairie ecology

Organisms Worked With: 8 Systematic Techniques: 20 21 28 30 Ecological Interests: 40 42

48 51 Geographical Areas: Colorado, New Mexico; Chile

Organism Specialties: Rodentia: Sciuridae - Eutamias; Geomyidae -

Thomomys; Cricetidae in South America

Ecological Expertise:

Organisms Worked With: 8 9 10 Systematic Techniques: 21 26 27 33 Ecological Interests: 34 41 42 44 45

46 51 53 56 57 58 eas: Cook and DuPage Counties, Illino

Geographical Areas: Cook and DuPage Counties, Illinois; New Mexico, South Dakota, Michigan and Georgia; Mexico; Dominican Republic;

Galapagos Islands

Organism Specialties: Reptilia and Amphibia Ecological Expertise: zoological parks

Mrs. Lisa Brooks Pendergast

Aquatic Ecologist
Woodhaven Association
P.O. Box 6
Sublette, IL 61367

M.S. Clarion State 1980 Phone (815) 849-5916

#290

Dr. Charles H. Perino
Chief, Natural Science
Illinois Dept. of Transportation
Bureau of Location and Environment
2300 S. Dirksen Parkway
Springfield, IL 62764

Ph.D. North Carolina State University 1978 Phone (217) 785-2943

#291

Dr. Janice V. Perino Manager and Ecotoxicologist Illinois E.P.A. Office of Chemical Safety 2200 Churchill Road Springfield, IL 62706

Ph.D. North Carolina State University 1975 Phone (217) 785-0830

#292

Dr. Bruce W. Petersen

Assistant Professor Southern Illinois University Department of Zoology Carbondale, IL 62901

Ph.D. University of Colorado 1968 Phone (618) 536-2314

#293

Dr. David P. Philipp

Associate Fisheries Geneticist Illinois Natural History Survey Section of Aquatic Biology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Massachusetts 1976 Phone (217) 333-6897

#294

Dr. Tom L. Phillips Professor & Head University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

Ph.D. Washington University-St. Louis 1961 Phone (217) 333-0653 Organisms Worked With: 7 11 12 Systematic Techniques: 27 Ecological Interests: 39 43 45 62

Geographical Areas: Lee County, Illinois Organism Specialties: Chironomidae

Ecological Expertise: lake management: weeds, sediments, fisheries, chemistry and mosquito abatement

Organisms Worked With: 1 Systematic Techniques: 27 28 Ecological Interests: 35 40 41 42 43 47 50 63

Geographical Areas: southwestern U.S.A.; Mexico

Organism Specialties: Caprifoliaceae - Lonicera; Asteraceae

Ecological Expertise: vegetation analysis and description

Organisms Worked With: 1 Systematic Techniques: Ecological Interests: 34 41 43 64

Geographical Areas:

Organism Specialties:

Ecological Expertise: ecotoxicology; wetlands; endangered species; community description; impact analysis

Organisms Worked With: 1 12 14 Systematic Techniques: Ecological Interests: 35 36 40 43 47 50 52 53 61

Geographical Areas: Jackson, Williamson and Union Counties, Illinois Organism Specialties:

Ecological Expertise: pollination ecology; mimicry theory; terrestrial microarthropods

Organisms Worked With: 11 Systematic Techniques: 20 22 25 26 31 Ecological Interests: 37 40 41 42 43 45 46 51 57

Geographical Areas: North America

Organism Specialties: Centrarchidae

Ecological Expertise: ecological genetics

Organisms Worked With: 2 3 Systematic Techniques: 20 21 27 29 Ecological Interests: 35 36 40 41 42 51 63

Geographical Areas: fossil coal-swamp plants of eastern U.S.A., western Europe, Donetz (U.S.S.R.) and southwest China Organism Specialties: fossil ferns - Coenopteridales, Marattiales; fossil lycopods - Lepidodendrales

Ecological Expertise: Pennsylvanian-age paleotropical ecology, with emphasis on reproductive biology and community ecology of vascular plants

Dr. Ronald H. Pine

Professor George Williams College LERA 555 Thirty-first Street Downers Grove, IL 60515-9960

Ph.D. Texas A & M University 1968 Phone (312) 964-3100 Ext. 356

#296

Dr. John J. Pizzimenti

Senior Ecologist Harza Engineering Co. Department of Environmental Sciences 150 S. Wacker Drive Chicago, IL 60606

Ph.D. Kansas University 1974 Phone (312) 855-7000

#297

Dr. Roy E. Plotnick

Assistant Professor University of Illinois at Chicago Department of Geological Sciences Box 4348 Chicago, IL 60680

Ph.D. University of Chicago 1983 Phone (312) 996-2111

#298

Dr. Timothy Plowman

Associate Curator Field Museum of Natural History Botany Department Roosevelt Road at Lake Shore Drive Chicago, IL 60605-2496

Ph.D. Harvard University 1973 Phone (312) 922-9410 Ext. 317

#299

Mr. Alfred F. Pogge Associate Professor Quincy College Biology Department Quincy, IL 62301

M.S. University of Wyoming 1962 Phone (217) 222-8020 Ext. 373

#300

Mr. Irwin Polls Aquatic Biologist Metro. Sanitary District of Chicago Biology Research 550 S. Mercham Road Schaumburg, IL 60193

M.S. Oregon State University 1970 Phone (312) 529-7700 Organisms Worked With: $8 \ 9\ 10\ 11\ 12\ 13\ 14\ 15$

Systematic Techniques: 20 21 27 28 Ecological Interests: 34 35 40 41 42 43

46 47 48 50 51 52 53 54 62 63

Geographical Areas: DuPage County, Illinois; West Indies, Mexico,

Central America and South America

Organism Specialties: bats, rodents, opossums

Ecological Expertise: environmental impact, faunal surveys, ecological assessment; reproductive ecology, evolutionary ecology

Organisms Worked With: 8 9 10 11

Systematic Techniques: 21

Ecological Interests: 35 38 41 42 43 44 45

50 61 62

Geographical Areas: Illinois, western U.S.A.; Latin America

Organism Specialties: Rodentia

Ecological Expertise: human ecology, human impacts; water resources, dams, reservoirs, hydroelectric energy development

Organisms Worked With: 13 14 19 Systematic Techniques: 21 23 30 33 Ecological Interests: 38 39 40 42 51 66 Geographical Areas: worldwide

Organism Specialties: fossil chelicerates, especially eurypterids and xiphosurans; recent partunid crabs

Ecological Expertise: paleoecology, processes of decomposition

Organisms Worked With: 1

Systematic Techniques: 20 21 22 24 26 27 28 29

Ecological Interests:

Geographical Areas: Dauphin and Sullivan Counties, Pennsylvania; tropical South America (especially Peru, Ecuador, Columbia, Brazil and Venezuela)

Organism Specialties: Erythroxylaceae - Erythroxylum; Solanaceae -

Brunfelsia, Brugmansia

Ecological Expertise: floristics and ethnobotany

Organisms Worked With: 1 11 12 Systematic Techniques: 20 27 Ecological Interests: 37 38 42 45

50

Geographical Areas: Adams and Pike Counties, Illinois; Mississippi River between Hannibal and LaGrange, Missouri Organism Specialties: Plecoptera, Ephemeroptera, Trichoptera;

angiosperms

Ecological Expertise: limnology of small lakes and streams; local spring

flowering plants

Organisms Worked With: 12 13 15 16 Systematic Techniques: 20 21 27 28 Ecological Interests: 38 39 41 43 44 47 50 64

Geographical Areas: Cook County, northeastern Illinois

Organism Specialties: Chironomidae, Tubificidae

Ecological Expertise: water quality and environmental problems

Mr. Thomas A. Pooley Graduate Student

7410 Dixon, Apt. H. Forest Park, IL 60130

B.A. So. Illinois University 1973 Phone (312) 366-2352

#302

Dr. Thomas L. Poulson

Professor University of Illinois Department of Biological Sciences P.O. Box 4348 Chicago, IL 60680

Ph.D. University of Michigan 1961 Phone (312) 996-4537

#303

Dr. James R. Purdue

Curator Illinois State Museum Zoology Section Spring & Edwards Springfield, IL 62706

Ph.D. University of Oklahoma 1974 Phone (217) 785-4843

#304

Mr. Steven F. Railsback Environmental Engineer Ft. Richardson Engin. & Housing Environmental Branch Attn. AFZT-EH-PSE

Attn. AFZT-EH-PSE Ft. Richardson, AK 99508

M.S. University of Illinois 1981 Phone (907) 863-7185

#305

Mr. Arlo J. Raim Research Assistant Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

M.A. Western Michigan University 1975 Phone (217) 333-0507

#306

Dr. James R. Rastorfer Professor & Chairman Chicago State University Department of Biological Sciences 95th Street and King Drive Chicago, IL 60466

Ph.D. Washington State University 1967 Phone (312) 995-2183 Organisms Worked With: 12 Systematic Techniques: 27 28 Ecological Interests: 37 38 39 40 45 47 48 66

Geographical Areas: DeKalb and Kane Counties, Illinois

Organism Specialties: Odonata

Ecological Expertise: aquatic ecology, aquatic insects and their life

histories

Organisms Worked With: 1 3 8 9 10 11 12 13 14

Systematic Techniques:

Ecological Interests: 34 35 36 37 38 39 40 41 42 43 44 48 50 51 52 56 57 58 59 60 63

Geographical Areas: Union, Cook and Lake Counties, Illinois; Warren Dunes, Michigan; Mammoth Cave, Kentucky; Panama; Brazil

Organism Specialties:

Ecological Expertise: physiological and evolutionary ecology; floating plants, aquatic microcosms; hardwood forest dynamics; caves; dunes; birds; fish; crustaceans; functional morphology

Organisms Worked With: 8 Systematic Techniques: 27 30 Ecological Interests: 40 51 66

Geographical Areas:

Organism Specialties: North American mammals, especially Odocoileus

Ecological Expertise: Holocene paleobiology of North American mammals

Organisms Worked With: 11 12 Systematic Techniques: 33 Ecological Interests: 37 41 42 43 45

50 55
Geographical Areas: Illinois, especially the Kasi

Geographical Areas: Illinois, especially the Kaskaskia River and Champaign and Vermilion Counties; Arctic regions Organism Specialties: aquatic macroinvertebrates and fishes

Ecological Expertise: habitat modelling and instream flow needs for fish and aquatic invertebrates

Organisms Worked With: 1 9 Systematic Techniques: Ecological Interests: 34 40 42 46 48 52

Geographical Areas: east central Illinois; Wisconsin

Organism Specialties:

Ecological Expertise: movements and behavior of brown-headed cowbirds; field census and banding of birds; study of bird movements through use of radio telemetry

Organisms Worked With: 1 4 Systematic Techniques: 27 28 Ecological Interests: 34 35 42 43 47 57 60 61 63

Geographical Areas: Illinois, especially Grundy County; Midwest grasslands and woodlands; Alaskan tundra

Organism Specialties: Bryophyta - Musci

Ecological Expertise: physiological ecology of bryophytes and the role of bryophytes in the structure and function of biotic communities

Mr. James Vernon Rauff

Professor College of Lake County

Division Math, Engineering & Phys. Sci. Grayslake, IL 60030

M.A. Loyola University of Chicago 1981 Phone (312) 223-6601

#308

Dr. Paul L. Redfearn, Jr.

Professor

Southwest Missouri State University

Department of Biology Springfield, MO 65804

Ph.D. Florida State University 1957

Phone (417) 836-5882

#309

Dr. Charles A. Reed

Professor Emeritus University of Illinois at Chicago Department of Anthropology Box 4348

Chicago, IL 60680

Ph.D. Univ. of California-Berkeley 1943 Phone (312) 996-9610

#310

Mr. Stewart Bowman Reid

Graduate Student Southern Illinois University Department of Biology Edwardsville, IL 62026

B.A. Univ. of California-Berkeley 1978 Phone (618) 692-3927

#311

Dr. Keturah A. Reinbold

Associate Professional Scientist Illinois Natural History Survey Section of Aquatic Biology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1974 Phone (217) 333-6897

#312

Mr. Eric M. Reishus

Biologist
Union Electric Company
Environmental Services Department
P.O. Box 149, Code 602
St. Louis, MO 63166

M.S. S. Illinois Univ.-Edwardsville 1982 Phone (314) 554-2978 Organisms Worked With: 8 Systematic Techniques:

Ecological Interests: 34 35 36 40 42 45

46 51 55 58

Geographical Areas: Organism Specialties:

Ecological Expertise: mathematical modelling of primate behavior and ecology

Organisms Worked With: 1 3 4

Systematic Techniques: 21 Ecological Interests: 36 42 43

50 52 63

Geographical Areas: Ozark Hills Organism Specialties: bryophytes

Ecological Expertise:

Organisms Worked With: 8 10 Systematic Techniques: 20

Ecological Interests:

51 53 66

Geographical Areas: western U.S.A. (Tertiary); Iraq, Iran and Egypt

(Quaternary)

Organism Specialties: Insectivora - Talpidae and other small extinct

burrowing mammals

Ecological Expertise: prehistoric human cultural evolution

Organisms Worked With: 11

Systematic Techniques: 21 23 27 28

Ecological Interests: 37

46 48 52

Geographical Areas: northern South America, especially Venezuela Organism Specialties: Pimelodidae - Pseudoplatystoma; Cichlidae -

Crenicichla

Ecological Expertise: tropical aquatic systems and resources; aerial population censusing (large birds, crocodiles)

Organisms Worked With: 7 11 12 13 15 16 Systematic Techniques: 20 27 28

Ecological Interests: 37 38 39 40 41 42 43 44 45

50 57 64

Geographical Areas:

Organism Specialties:

Ecological Expertise: impacts of environmental contaminants, particularly in aquatic ecosystems

Organisms Worked With: 1 9 10 11 12 13 15 16

Systematic Techniques: 20 26 27

Ecological Interests: 34 35 36 37 38 39 41 42 43

47 50 52 53 55 56 62 63 54 65

Geographical Areas: aquatic: middle Mississippi River, lower Missouri River, lower Osage River, lower Illinois River; terrestrial: central eastern Missouri, southeast Iowa

Organism Specialties: teleost fishes; Mollusca; some Diptera; Copepoda Cladocera

Ecological Expertise: environmental assessment; population dynamics; resource management

Mr. Alan Robert Resetar

Collection Manager Field Museum of Natural History Division of Amphibians and Reptiles Roosevelt Road at Lake Shore Drive Chicago, IL 60605-2496

B.S. Purdue University-Calumet 1978 Phone (312) 922-9410 Ext. 271

#314

Dr. Garland T. Riegel

Professor Emeritus Eastern Illinois University Department of Zoology Charleston, IL 61920

Ph.D. University of Illinois 1947 Phone (217) 345-6164

#315

Dr. Paul G. Risser

Chief Illinois Natural History Survey 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Wisconsin 1967 Phone (217) 333-6830

#316

Dr. Kenneth Ray Robertson

Associate Botanist Illinois Natural History Survey Section of Botany & Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Washington University 1971 Phone (217) 333-6886

#317

Dr. Philip A. Robertson

Associate Professor Southern Illinois University Department of Botany Carbondale, IL 62901

Ph.D. Colorado State University 1968 Phone (618) 536-2331

#318

Dr. Scott K. Robinson

Assistant Professional Scientist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Princeton University 1984 Phone (217) 333-6857 Organisms Worked With: 1 10 Systematic Techniques: 21 27 28 Ecological Interests: 35 40 42 43 47 50 52

Geographical Areas: Cook County, Illinois; Lake and Porter Counties, Indiana; central and southern Africa; Libya

Organism Specialties: African colubrid snakes: Polemon, Chilorhinophis

and Poecilopholis

Ecological Expertise: field census of amphibians, reptiles, fish and

prairie plants

Organisms Worked With: 12 Systematic Techniques: 20 21 27 28

Ecological Interests:

Geographical Areas: U.S.A. and Canada

Organism Specialties: Zoraptera; Hymenoptera: Braconidae, Dacnusinae -Chaenuusa, Chorebidella, Chorebidea, Symphya, Sarops, Coelinidea, Chorebus Ecological Expertise:

Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 36 40 41 42 45

47 49 50 52 54 57 60 61 62 63

Geographical Areas: Illinois, Oklahoma

Organism Specialties:

Ecological Expertise: community analysis, ecosystem modelling, resource management

Organisms Worked With: 1

Systematic Techniques: 23 24 27 28 29

Ecological Interests:

50 51 65

Geographical Areas: Illinois; southeastern U.S.A.

Organism Specialties: Rosaceae; Amaranthaceae - Amaranthus;

Convolvulaceae - Jacquemontia

Ecological Expertise: natural areas, prairies

Organisms Worked With: 1
Systematic Techniques:

Ecological Interests: 34 35 40 41 42 43 45

47 54 60 63

Geographical Areas: southern Illinois

Organism Specialties:

Ecological Expertise: plant community ecology, soil-site relationships of bottomland forests, forest regrowth and succession

Organisms Worked With: 9

Systematic Techniques:

Ecological Interests: 34 35 40 42 43

46 48 50 51 54

Geographical Areas: Lake Shelbyville, Pope and Union Counties,

Illinois; Manu National Park, Peru

Organism Specialties:

Ecological Expertise: community ecology of forest birds in temperate and tropical regions; mating systems of birds; foraging ecology of birds; brood parasitism; habitat selection

Dr. Gary L. Rolfe Professor & Head University of Illinois Department of Forestry 110 Mumford Hall, 1301 W. Gregory St. Urbana, IL 61801

Ph.D. University of Illinois 1971 Phone (217) 333-2771

#320

Mrs. Ruth Andrews Rosdail

Biologist U.S. Army Corps of Engineers Environmental Analysis Branch Clock Tower Building Rock Island, IL 61201

B.S. Eastern Michigan University 1977 Phone (309) 788-6361

#321

Dr. George B. Rose Staff Ecologist Illinois Dept. of Transportation Bureau of Location and Environment 2300 S. Dirksen Parkway Springfield, IL 62764

Ph.D. University of Georgia 1969 Phone (217) 785-2830

#322

Mr. John L. Roseberry

Associate Scientist Southern Illinois University Cooperative Wildlife Research Lab. Carbondale, IL 62901

M.A. So. Illinois Univ.-Carbondale 1961 Phone (618) 536-7766

#323

Mr. Mark A. Rosenthal

Curator of Mammals Lincoln Park Zoo 2200 N. Cannon Drive Chicago, IL 60614

M.A. Northeastern Illinois University 1976 Phone (312) 294-4660

#324

Dr. William G. Ruesink

Associate Entomologist Illinois Natural History Survey Section of Economic Entomology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Michigan State University 1972 Phone (217) 333-6820 Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 36 40 41 42 43 45 49 50 55 56 61 62 63

Geographical Areas: southern Illinois bottomlands along the Ohio, Wabash and Mississippi Rivers; Shawnee National Forest, especially Pope County; central Illinois bottomlands on the Illinois and Sangamon Rivers Organism Specialties:

Ecological Expertise: mineral cycling; soil-plant interactions

Organisms Worked With: 1 2 8 9 10 11 15

Systematic Techniques: 21

Ecological Interests: 36 39 40 42 43 44 45 46 48 50 52 54 58 62 65

Geographical Areas: Iowa, Missouri, Wisconsin

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 8 9 10 11 Systematic Techniques:

Ecological Interests: 34 35 36 40 41 42 43

48 49 50 54 56 63

Geographical Areas:

Organism Specialties:

Ecological Expertise: ecology of cottontail rabbits; radionuclide cycling; small mammals; ecological energetics; endangered species; ecological effects of transportation projects

Organisms Worked With: 8 9 Systematic Techniques:

Ecological Interests: 34 40 41 42 45

48 62

Geographical Areas: southern Illinois

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 8 Systematic Techniques: 26 31 Ecological Interests: 36 44 45

46 48 58

Geographical Areas:

Organism Specialties: Primata; Marsupialia; Insectivora

Ecological Expertise:

Organisms Worked With: 12 Systematic Techniques: 21 27 Ecological Interests: 34 41 45

55 58

Geographical Areas: Illinois, eastern U.S.A.

Organism Specialties: Coleoptera - Chrysomelidae - Hispinae

Ecological Expertise: modelling insect population dynamics and insect/crop interactions

Dr. Glen C. Sanderson Wildlife Specialist & Sec. Head Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1961 Phone (217) 333-6870

#326

Dr. Malcolm Lee Sargent

Associate Professor University of Illinois Dept. of Genetics & Development 515 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

Ph.D. Stanford University 1967 Phone (217) 333-0287

#327

Dr. J. Henry Sather

Professor

Western Illinois University Institute for Environmental Mgt. Macomb, IL 61455

Ph.D. University of Nebraska 1952 Phone (309) 833-5341

#328

Dr. Jeffery J. Saunders

Associate Curator Illinois State Museum Dept. of Vertebrate Paleontology Spring and Edwards Springfield, IL 62706

Ph.D. University of Arizona 1975 Phone (217) 785-4844

#329

Mr. Scott A. Schaefer

Graduate Student University of Chicago Committee on Evolutionary Biology 1101 E. 57th Street Chicago, IL 60637

M.S. Univ. of South Carolina 1982

#330

Dr. Douglas W. Schemske

Assistant Professor University of Chicago Department of Biology 5630 S. Ingleside Chicago, IL 60637

Ph.D. University of Illinois 1977 Phone (312) 962-3417 Organisms Worked With: 8 9

Systematic Techniques: Ecological Interests: 34

50 52 62

Geographical Areas: Champaign and Fulton Counties, west central

Illinois

Organism Specialties:

Ecological Expertise: ecology of the raccoon

Organisms Worked With: 4 5 Systematic Techniques: 22 27 31

Ecological Interests:

Geographical Areas: east central Illinois, west central Indiana

Organism Specialties: Bryophyta

Ecological Expertise: reproductive biology: phenology and environmental

control of reproduction

Organisms Worked With: 8 9

Systematic Techniques:

Ecological Interests: 39 41 42 43 44 45

50 54 58 62 63

Geographical Areas: U.S.A., India

Organism Specialties:

Ecological Expertise: wetlands: inventory, assessment of values, and

classification

Organisms Worked With: 8

Systematic Techniques: 20 21 27 28 33 Ecological Interests: 34 35 40 42

50 51 55 58 63 66

Geographical Areas: central Illinois; western Missouri and Missouri

Ozarks; New Mexico; northern Pakistan

Organism Specialties: Proboscidea: Mammutidae, Elephantidae;

Mammut, Mammuthus

Ecological Expertise: plant/animal and man/animal interactions at the end of the Pleistocene (ca. 12,000 - 10,000 years ago), involving,

specifically, mastodonts and mammoths

Organisms Worked With: 11

Systematic Techniques: 20 21 23 27

Ecological Interests: 37 38 40 42 43

48 51

Geographical Areas: Illinois, Indiana, Ohio, Missouri, Pennsylvania;

South America

Organism Specialties: Pisces - Teleostomi, Ostariophysi: Cyprinidae -

Notropis; Siluriformes - Loricariidae

Ecological Expertise: marine: early life history of fishes, recruitment and population dynamics; freshwater: trophic and habitat zonation

Organisms Worked With: 1 12

Systematic Techniques:

Ecological Interests: 34 35 41 42

48 51 58

Geographical Areas:

Organism Specialties:

Ecological Expertise: plant reproduction; pollination; coevolution

Dr. Wayne Edward Schennum Ecologist Iowa Natural Areas Inventory Iowa Conservation Commission Wallace State Office Building

Wallace State Office Building Des Moines, IA 50319

Ph.D. Univ. of Illinois at Chicago 1975 Phone (515) 281-3891

#332

Mr. Jerry Roy Schloemer

Owner, biological supply company Complete Scientific P.O. Box 307 Round Lake, IL 60073

B.S. Stanford University Phone (312) 546-3350

#333

Mr. George H. Schneider

Associate Professor Quincy College Department of Biological Sciences 1831 College Quincy, IL 62301

M.S. University of Nebraska 1963 Phone (217) 222-8020

#334

Jean D. Schoknecht

Associate Mycologist (adjunct) Illinois Natural History Survey Department of Botany and Plant Pathology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1972 Phone (217) 333-6887

#335

Dr. Peter Schramm Professor & Field Station Director Knox College Biology Department Galesburg, IL 61401

Ph.D. Univ. of California-Berkeley 1963 Phone (309) 343-0112 Ext. 399

#336

Mr. John Edwin Schwegman Botany Program Manager Illinois Department of Conservation

Div. of Forest Resources & Nat. Heritage 600 North Grand Avenue West Springfield, IL 62706

M.A. Southern Illinois University 1969 Phone (217) 782-2361 Organisms Worked With: 1 2 3 10 12 Systematic Techniques: 20 21 27

Ecological Interests: 35 38 40 42 47 48 50 51 52 58 63

Geographical Areas: northeast and north central Illinois, Iowa, southeast Wisconsin, northwest Indiana and southwest Michigan Organism Specialties: Lepidoptera - Papilionidea; angiosperms

Ecological Expertise: vegetation ecology; classification and evaluation of plant communities for inventory purposes; successional and geological relations, biogeographic history and management of natural communities

Organisms Worked With: 1 9 12 Systematic Techniques: 21 27 28

Ecological Interests:

Geographical Areas: Illinois plants; worldwide insects and birds Organism Specialties: Papilionidae, Nymphalidae, Saturnidae, Lucanidae

Ecological Expertise:

Organisms Worked With: 1 8 9 15 Systematic Techniques: 20 21 27 28 Ecological Interests: 34 35 37 40 42 43

50 52 62

Geographical Areas: Adams and Pike Counties, Illinois

Organism Specialties: Unionoida, Aves and Mammalia

Ecological Expertise: wildlife management

Organisms Worked With: 5 6 19 Systematic Techniques: 27 28 33 Ecological Interests: 36 37 40 42 43 44 45

Ecological Interests: 36 37 40 42 43 44 45 48 50 56 59

Geographical Areas: Champaign, Clark and Vermilion Counties, Illinois; southern Illinois; Indiana; Georgia and Florida

Organism Specialties: Fungi: Ascomycetes, Myxomycetes, lichens,

Hyphomycetes, Basidiomycetes

Ecological Expertise: terrestrial, swamps and bogs, especially

subtropical

Organisms Worked With: 1 8 9 Systematic Techniques: 20 21 23 24 27 28 31 Ecological Interests: 34 35 36 40 41 42 43 45

46 48 50 52 54 58 59 60 61 62 63 65

Geographical Areas: Knox County, Illinois; Iowa; Florida Keys Organism Specialties: Rodentia, Carnivora; prairie plants

Ecological Expertise: prairie restoration, prairie mammals and birds, natural habitat management and restoration - prairies, forests and wetlands

Organisms Worked With: 1 2 3 Systematic Techniques: 21 27 28 Ecological Interests: 34 35 41 42 45

47 50 52 62 63 65 Geographical Areas: Illinois

Organism Specialties: Illinois vascular plants, especially endangered and threatened species

Ecological Expertise: natural vegetation ecology and management

David S. Seigler

Professor

University of Illinois Department of Plant Biology 289 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

Ph.D. University of Oklahoma-Norman 1967 Phone (217) 333-7577

#338

Ms. Jean A. Sellar

Instructor
De Paul University
School of New Learning
23 E. Jackson Boulevard
Chicago, IL 60643

M.S. Governors State University 1979 Phone (312) 445-5265

#339

Mr. Thomas N. Seng

Division Manager Soyland Power Cooperative Inc. Administrative Services 675 W. Imboden, P.O. Box A1606 Decatur, IL 62525

M.S. Eastern Illinois University 1970 Phone (217) 423-8000

#340

Ms. Mary C. Severinghaus

Lab Preparator & Education Spec. University of Illinois School of Life Sciences 393 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

B.S. University of Illinois 1973 Phone (217) 333-7428

#341

Dr. William D. Severinghaus

Ecologist U.S.A.-C.E.R.L. Environmental Division P.O. Box 4005 Champaign, IL 61820

Ph.D. University of Illinois 1976 Phone (217) 352-6511 Ext. 420

#342

Mr. Walter Steven Sheppard

Research Assistant University of Illinois Department of Entomology 320 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

M.S. University of Illinois 1980 Phone (217) 333-2929 Organisms Worked With: 1 3 12 Systematic Techniques: 21 22 23 28 30 31

Ecological Interests: 34

51 58 59 60

Geographical Areas: Illinois; southwestern U.S.A., Texas; Mexico;

Latin America

Organism Specialties: Fabaceae, especially Mimosoideae - Acacia;

Sapindaceae; cheilanthoid ferns

Ecological Expertise: utilization of chemical characters based on secondary plant metabolites for study of ecological problems

Organisms Worked With: 8 9

Systematic Techniques:

Ecological Interests: 35 42 43 45

46 50 52 58 62

Geographical Areas: northeast Illinois; Upper Michigan; Minnesota;

Canada

Organism Specialties:

Ecological Expertise: behavioral ecology; animal management and

protection

Organisms Worked With: Systematic Techniques: 27 28

Ecological Interests: 36 39 40 41 42

50

Geographical Areas: Pike County, Illinois; Wabash River, Illinois

River, Mississippi River; Iowa

Organism Specialties: Chironomidae, Tubificidae

Ecological Expertise: environmental impact assessment

Organisms Worked With: 8 9 12

Systematic Techniques: Ecological Interests: 36

46 52

Geographical Areas: Louisiana, Minnesota, North Dakota and Montana

Organism Specialties:

Ecological Expertise: censusing and sampling of bird and small mammal

populations

Organisms Worked With: 8 9

Systematic Techniques: 20 21 23 28

Ecological Interests: 34 35 41 42 43 45

50 52 55 61 62

Geographical Areas: major U.S. Army training lands in Louisiana,

Texas, Washington, Kentucky, Colorado, Kansas, Georgia, California, New

York, North Carolina, Alabama and Oklahoma

Organism Specialties: Rodentia - Cricetidae - Microtus, Sigmodon

Ecological Expertise: effects of off-road vehicles on small mammal, song bird and vascular plant populations; impact mitigation

Organisms Worked With: 1 12 Systematic Techniques: 21 22 26 27

Ecological Interests: 34 40 41 46 51

Geographical Areas: eastern U.S.A., Norway, Germany, Italy and Sri

Lanka

Organism Specialties: Hymenoptera, especially Apis

Ecological Expertise: pollination ecology, behavioral ecology

Mr. Paul Wayne Shetley Environmental Scientist Envirodyne Engineers Inc. Science and Engineering 12161 Lackland Road St. Louis, MO 63146

M.S. So. Illinois Univ.-Edwardsville 1983 Phone (314) 434-6960

#344

Dr. Rolf Singer

Professor Emeritus/Research Assoc. Field Museum of Natural History Botany Department Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Dr.S. Universite de Lausanne-Switzerland 1977

#345

Dr. Jeffery R. Single

Researcher Southern Illinois University School of Medicine Carbondale, IL 62901

Ph.D. So. Illinois Univ.-Carbondale 1983 Phone (618) 453-2886

#346

Mr. Thomas M. Skelly

Assistant Supportive Scientist Illinois Natural History Survey Section of Aquatic Biology 607 E. Peabody Drive Champaign, IL 61820

M.S. University of Illinois 1979 Phone (217) 333-9007

#347

Dr. Allen Charles Skorepa

Research Associate Towson State University Department of Biology York Road Towson, MD 21204

Ph.D. University of Tennessee 1973 Phone (301) 321-3034

#348

Dr. Djaja D. Soejarto Research Associate Field Museum of Natural History Botany Department Roosevelt Road at Lake Shore Drive Chicago, IL 60605 Organisms Worked With: 10 11 Systematic Techniques: 21 25 31 Ecological Interests: 36 38 39 40 41 43 46 48 50 66

Geographical Areas: Madison County, Illinois; sandy environments in

Illinois

Organism Specialties: Anura - Hylidae - Pseudacris streckeri

Ecological Expertise: aquatic ecology, especially small stream and

wetlands habitat classification

Organisms Worked With: 5 6

Systematic Techniques: 20 21 23 24 25 27 28 30 31 33

Ecological Interests: 35 36 40 41 42 43

47 51 52 58 59 60 63 64

Geographical Areas: northern Illinois, Massachusetts, Florida, New Mexico, California; Argentina, Brazil, Peru, Ecuador, Columbia, Uruguay, Costa Rica, Mexico; Spain, France, Austria, Switzerland, U.S.S.R., Japan Organism Specialties: Basidiomycetes, especially Agaricales;

ectomycorrhizal fungi

Ecological Expertise: tropical community classification and the roles

and adaptation of fungi to these communities

Organisms Worked With: 8 Systematic Techniques: 21 22 26 Ecological Interests: 34 40 41 42 43 44 45

46 48 52 55

Geographical Areas: Jackson and Williamson Counties, southern Illinois Organism Specialties: Rodentia; Investivorae

Ecological Expertise: population ecology; demography; home range;

statistical applications and modelling

Organisms Worked With: 11 12

Systematic Techniques: Ecological Interests: 38 39 40 41 42 43 45

47 48 50 52 63 64

Geographical Areas: Will County, Kankakee River, east central Illinois

Organism Specialties:

Ecological Expertise: catostomid fishes; stream ecology; resource utilization, fish community classification; solid coal waste toxicology on

aquatic organisms, cooling lake research

Organisms Worked With: 6 10 Systematic Techniques: 20 21 22 27 Ecological Interests: 35 36 40 41 42 43

50

Geographical Areas: southern Illinois; Maryland; Delaware; Virginia

Organism Specialties:

Ecological Expertise: effects of air pollution on lichens and

terrestrial communities

Organisms Worked With: 1

Systematic Techniques: 21 24 27 28 29

Ecological Interests:

Geographical Areas: Illinois, Wisconsin, Indiana, Missouri; Mexico,

Columbia, Ecuador, Peru, Bolivia, Paraguay, Brazil; Bangladesh, Sri Lanka,

Thailand, Taiwan, Indonesia; Ghana

Organism Specialties: Actinidiaceae, especially Saurauia; Asteraceae,

especially Stevia Ecological Expertise:

Phone (312) 922-9410

Dr. Lars F. Soholt

Ecologist Argonne National Laboratory

Environmental Research Div., Bldg. 214 9700 S. Cass Avenue

Argonne, IL 60439

Ph.D. University of So. California 1971 Phone (312) 972-3243

#350

Ms. Mary Kay Solecki

Assistant Supportive Scientist Illinois Natural History Survey Section of Faunistic Surveys 607 E. Peabody Drive Champaign, IL 61820

M.S. Southern Illinois University 1981 Phone (217) 333-6827

#351

Dr. G. Alan Solem

Curator Field Museum of Natural History Dept. of Zoology/Invertebrates Roosevelt Road at Lake Shore Drive Chicago, IL 60605-2496

Ph.D. University of Michigan 1956 Phone (312) 992-9410 Ext. 270

#352

Mr. David Scott Sollenberger

Naturalist Chicago Botanic Garden Research Department P.O. Box 400, Lake-Cook Road, Glencoe, IL 60022

B.A. Southern Illinois University 1980 Phone (312) 835-5440 Ext. 47

#353

Dr. Paul D. Sorensen

Associate Professor & Curator Northern Illinois University Department of Biological Sciences De Kalb, IL 60115-2854

Ph.D. University of Iowa 1967 Phone (815) 753-0433

#354

Dr. Richard E. Sparks

Aquatic Biologist Illinois Natural History Survey River Research Lab Box 599 Havana, IL 62644

Ph.D. Virginia Polytechnic Institute 1971 Phone (309) 543-3950 Organisms Worked With: 8
Systematic Techniques:

Ecological Interests: 35 41 42 43 45 49 50 57 58 62

Geographical Areas: southwestern and western U.S.A., including Alaska

Organism Specialties:

Ecological Expertise: small mammal ecology; ecological energetics; arid lands; impact assessment; wildlife interactions with human development; impacts of energy technologies

Organisms Worked With: 1 2

Systematic Techniques:

Ecological Interests: 34 35 42 45

47 59

Geographical Areas: Illinois; southern Missouri

Organism Specialties:

Ecological Expertise: structure and composition of tallgrass prairie; structure and composition of upland forests in Missouri

Organisms Worked With: 15

Systematic Techniques: 20 21 26 27 28 30 31 33

Ecological Interests: 34 35 36 40 42 43 46 48 51 52 58 63

Geographical Areas: worldwide, especially Australia and Pacific

Islands

Organism Specialties: land mollusks

Ecological Expertise: patterns of diversity; biogeography

Organisms Worked With: 1 2 3

Systematic Techniques:

Ecological Interests: 35 36 38 42 43 44 45

47 59 60 65

Geographical Areas: northeastern Illinois

Organism Specialties:

Ecological Expertise: northeastern Illinois prairie habitats

Organisms Worked With: 1 2 3

Systematic Techniques: 21 24 26 27 28 30 33 Ecological Interests: 34 35 36 40 41 42 43 47 50 51 52 58 63 65 66

Geographical Areas: northern Illinois, Wisconsin, Iowa, Minnesota, southwest states and Pacific coast states; Mexico; Central America Organism Specialties: Asteraceae - Heliantheae - Coreopsidinae - Dahlia; Ericaceae - Arbutus; Phytolaccaceae - genera of the southwest U.S.A. Ecological Expertise: monarch butterfly and milkweed chemical ecology; environmental assessment; autecology of selected prairie plant taxa

Organisms Worked With: 11 15

Systematic Techniques: 27

Ecological Interests: 37 38 39 40 41 42 43

50 55 56 58 62 63 64

Geographical Areas: Illinois and Mississippi Rivers and their bottomland lakes, backwaters and wetlands

Organism Specialties: Unionidae, Shaeriidae and Corbiculidae

Ecological Expertise: ecology of large floodplain rivers; aquatic toxicology; pollution ecology

Dr. John M. Speer

Professor

Eastern Illinois University Department of Botany Charleston, IL 61920

Ph.D. Ohio State University 1966

Phone (217) 581-3525

#356

Dr. Loretta D. Spiess Senior Research Associate Northwestern University Department of Biochemistry

Hogan Hall

Evanston, IL 60201

Ph.D. Harvard University 1953

Phone (312) 492-7204

#357

Mr. Ken R. Spitze

Graduate Student University of Illinois

Dept. of Ecology, Ethology & Evolution

606 E. Healey Street Champaign, IL 61820

B.S. University of Illinois 1982

Phone (217) 333-2235

#358

Dr. Howard James Stains

Professor

Southern Illinois University Department of Zoology Carbondale, IL 62901

Phone (618) 536-2314

#359

Dr. Robert Rhea Stephens

Associate Professor **Bradley University** Department of Biology 1501 W. Bradley Avenue Peoria, IL 61625

Ph.D. Oklahoma State University 1967

Phone (309) 676-7611 Ext. 480

#360

Dr. James G. Sternburg

Professor University of Illinois Department of Entomology

320 Morrill Hall, 505 S. Goodwin Ave.

Urbana, IL 61801

Ph.D. University of Illinois 1952

Phone (217) 333-1165

Organisms Worked With: 1 2 3 4 5 7

Systematic Techniques: 24 26 27

Ecological Interests:

Geographical Areas:

Organism Specialties: Asteraceae - Silphium, Aster

Ecological Expertise:

Organisms Worked With: 4 19 Systematic Techniques: 27 Ecological Interests: 34 36 40 42

57 59 66

Geographical Areas: Cook County, Illinois

Organism Specialties: Bryophyta - Musci; bacteria

Ecological Expertise: bacterial associations with moss

Organisms Worked With: 12 13

Systematic Techniques:

Ecological Interests: 34 35 37 38 40 42 44

46 48 49 51 52 55

Geographical Areas: Champaign and Vermilion Counties, Illinois

Organism Specialties:

Ecological Expertise: predator-prey modelling, prey population demography, prey life history evolution, natural selection

Organisms Worked With: 8 Systematic Techniques: 27 28 Ecological Interests: 34 51 62

Geographical Areas: southern Illinois

Organism Specialties: Carnivora - Procyoxidae, Canidae, Felidae

Ecological Expertise: food habits

Organisms Worked With: 11 18

Systematic Techniques: 20 21 23 24 25 27 28 30 31

Ecological Interests:

Geographical Areas: Peoria County, Illinois

Organism Specialties: Teleostomi

Ecological Expertise:

Organisms Worked With: 12 Systematic Techniques: Ecological Interests: 34 40 42

46 51 57 58

Geographical Areas: Piatt and Champaign Counties, central Illinois;

Emmet County, Michigan Organism Specialties:

Ecological Expertise: mimicry, survival strategies, behavior of insects (especially Lepidoptera)

Ms. Lori Stevens

Research Assistant University of Illinois

Department of Biological Sciences

Box 4348

Chicago, IL 60680

M.S. University of Illinois-Chicago 1981

Phone (312) 996-5437

#362

Dr. Donald J. Stewart

Assistant Curator & Division Head Field Museum of Natural History Division of Fishes Roosevelt Road at Lake Shore Drive

Chicago, IL 60605

Ph.D. University of Wisconsin 1980

Phone (312) 922-9410

#363

Dr. Robert R. Stickney

Director Southern Illinois University Fisheries Research Laboratory Carbondale, IL 62901

Ph.D. Florida State University 1971

Phone (618) 536-7761

#364

Dr. Benton M. Stidd

Professor & Chairman Western Illinois University Department of Biological Sciences

Macomb, IL 61455

Ph.D. University of Illinois 1968

Phone (309) 298-2408

#365

Dr. Kenneth J. Stimpfl

Partner & Senior Ecologist Dames & Moore 1550 Northwest Highway Park Ridge, IL 60067

Ph.D. Indiana University 1971

Phone (312) 297-6120

#366

Mr. Robert G. Stolze

Custodian, Fern Herbarium Field Museum of Natural History Department of Botany Roosevelt Road at Lake Shore Drive Chicago, IL 60605

B.S. Notre Dame University 1949 Phone (312) 922-9410 Organisms Worked With: 12 Systematic Techniques: Ecological Interests: 34 44

46 48 51 55 66

Geographical Areas:

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 11

Systematic Techniques: 20 21 23 27 28 30 Ecological Interests: 38 40 42 45 47 49 51 55 58 62

47 49 51 55 58 62

Geographical Areas: freshwaters of South America, especially the

Amazon River basin in Ecuador and Peru Organism Specialties: Siluriformes, Gymnotiformes

organism speciatiles, shurnormes, dynmounormes

Ecological Expertise: energetics models for salmonids; distributional

ecology of Amazonian fishes

Organisms Worked With: 11 13

Systematic Techniques:

Ecological Interests: 37 39 40 41 42 43 44 45

50 55 56 57 62 66

Geographical Areas: southern Illinois; Philippines, Egypt, Israel,

Haiti, Brazil and Belize

Organism Specialties: Ictaluridae, Cichlidae and Sciaenidae

Ecological Expertise: estuarine ecology, relationships between water quality and fishes, responses of fishes to habitat alteration, impacts of

strip-mine lake acids on various aquatic communities

Organisms Worked With: 2 3 Systematic Techniques: 20 27 29

Ecological Interests:

Geographical Areas: Midwest coal-ball plants

Organism Specialties: Paleozoic pteridosperms and pteridophytes

Ecological Expertise:

Organisms Worked With: Systematic Techniques:

Ecological Interests: 38 39 41 42 43

50 56 57 64

Geographical Areas: Illinois, Wisconsin, Michigan and Indiana

Organism Specialties:

Ecological Expertise: aquatic ecology, site selection and evaluation,

wastes and discharges, impact assessment

Organisms Worked With: 3

Systematic Techniques: 21 27 28 29 33

Ecological Interests:

Geographical Areas: Central America, Ecuador and Peru

Organism Specialties: pteridophytes: Cyatheaceae; Polypodiaceae -

Asplenium

Ecological Expertise:

Dr. Raymond Eugene Stotler

Associate Professor Southern Illinois University Department of Botany Carbondale, IL 62901

Ph.D. University of Cincinnati 1968 Phone (618) 536-2331

#368

Dr. Carl A. Strang

Educator Forest Preserve District DuPage Co. Willowbrook Forest Preserve Box 2339 Glen Ellyn, IL 60138

Ph.D. Purdue University 1976 Phone (312) 790-4900 Ext. 283

#369

Dr. Elisabeth Ann Stull

Ecologist Argonne National Laboratory Environmental Research Division 9700 S. Cass Avenue Argonne, IL 60439

Ph.D. Univ. of California-Davis 1972 Phone (312) 972-7801

#370

Mr. Theodore D. Suchy

Associate Professor Illinois Benedictine College Biology Department 5700 College Road Lisle, IL 60532

M.S. Indiana University 1970 Phone (312) 960-1500

#371

Dr. Walter James Sundberg

Associate Professor Southern Illinois University Department of Botany Carbondale, IL 62901

Ph.D. Univ. of California-Davis 1971 Phone (618) 536-2331

#372

Mr. Michael J. Sweet

Endangered Species Coordinator Department of Conservation Endangered Species Protection Board 600 N. Grand Avenue West Springfield, IL 72702

M.A. Southern Illinois University 1975 Phone (217) 785-8774 Organisms Worked With: 4 6

Systematic Techniques: 20 21 22 24 27 28

Ecological Interests: 35 39 40 42

47

Geographical Areas: Illinois and worldwide

Organism Specialties: Hepatophyta, Anthocerotophyta

Ecological Expertise: community structure

Organisms Worked With: 1 9 10 12

Systematic Techniques: Ecological Interests: 35 40 42

Ecological Interests: 35 40 4 58

Geographical Areas: DuPage County, Illinois

Organism Specialties:

Ecological Expertise: community ecology of forest Lepidoptera; vertebrate behavioral ecology; urban wildlife management and public education; ecology of Glaucous Gulls, eastern box turtles and wood turtles

Organisms Worked With: 7 Systematic Techniques: 21 27 33

Ecological Interests: 37 38 39 40 41 42 44

47 48 50 51 52 66

Geographical Areas: southwestern U.S.A., northern Mexico

Organism Specialties: Dunaliella

Ecological Expertise: primary productivity, limnology, phytoplankton

dynamics, saline environments, salt tolerance

Organisms Worked With: 8 9 18 Systematic Techniques: 20 27

Ecological Interests: 34 35 36 40 42 43

46 54

Geographical Areas: DuPage County, Illinois

Organism Specialties:

Ecological Expertise: oak-hickory climax woods; pond ecology

Organisms Worked With: 5

Systematic Techniques: 20 24 26 27 28

Ecological Interests:

Geographical Areas: Illinois, especially Jackson, Williamson, Union

and Randolph Counties; California; Missouri; Kentucky

Organism Specialties: Ascomycetes and Basidiomycetes - Agaricales -

Lepiotaceae - Lepiota Ecological Expertise:

Organisms Worked With: 1 8 9 10 11 15

Systematic Techniques: 31

Ecological Interests: 34 35 37 41 42 43 44 45

46 50 52 53 58 62 63

Geographical Areas: Illinois

Organism Specialties: birds and mammals

Ecological Expertise: population ecology, habitat management

Mr. Floyd Allen Swink

Taxonomist Morton Arboretum Collections Department 4-S-123 Dorset Street Lisle, IL 60532

Phone (312) 968-0074

#374

Mr. David L. Swofford

Biometrician Illinois Natural History Survey Section of Economic Entomology 607 East Peabody Drive Champaign, IL 61820

M.S. Eastern Kentucky University 1982 Phone (217) 333-6828

#375

Ms. Diane Brennan Szafoni

Research Assistant Illinois Natural History Survey Section of Botany & Plant Pathology 607 East Peabody Drive Champaign, IL 61820

M.S. University of Illinois 1983 Phone (217) 333-6898

#376

Mr. Robert E. Szafoni

Technical Assistant Illinois Natural History Survey Section of Wildlife Research 607 East Peabody Drive Champaign, IL 61820

M.S. University of Illinois 1983 Phone (217) 333-7513

#377

Mr. Kent R. Taylor

Project Asst., Flora of Veracruz Field Museum of Natural History Botany Department Roosevelt Road at Lake Shore Drive Chicago, IL 60605

B.A. Denison University 1981 Phone (312) 922-9410 Ext. 229

#378

Mrs. Pamela P. Tazik

Junior Professional Scientist Illinois Natural History Survey Section of Aquatic Biology 607 East Peabody Drive Champaign, IL 61820

M.S. Clarion State College 1978 Phone (217) 333-6125 Organisms Worked With: 1 2 3 9 Systematic Techniques: 21 27 28 31 Ecological Interests: 34 35 36 42 43 44 45

52 63 64 65 65

Geographical Areas: Chicago region, northeast Illinois

Organism Specialties: vascular flora of the Chicago region; cultivated woody plants of the temperate zone
Ecological Expertise: plant associations of the local vascular flora

Organisms Worked With: 11 Systematic Techniques: 23 Ecological Interests:

Geographical Areas:

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 1 Systematic Techniques: 27 28 30 Ecological Interests: 35 41 43 61 Geographical Areas: Illinois

Organism Specialties: Poaceae - Panicum, Dichanthelium

Ecological Expertise:

Organisms Worked With: 9 Systematic Techniques: Ecological Interests: 34 35 40 42 4

Ecological Interests: 34 35 40 42 43 46 50 52 54 61

Geographical Areas: Champaign and Vermilion Counties, Illinois;

Upper Peninsula, Michigan Organism Specialties:

Ecological Expertise: avian ecology

Organisms Worked With: 1 2 Systematic Techniques: 21 27 28 Ecological Interests: 40 47 52

Geographical Areas: Veracruz, Mexico

Organism Specialties: Pinaceae - Pinus and Abies (of Mexico and U.S.A.)

Ecological Expertise:

Organisms Worked With: 1 11

Systematic Techniques:

Ecological Interests: 35 36 37 38 39 41 42 45 48 49 55 56 58 59 62 65

Geographical Areas: Champaign County, Illinois

Organism Specialties: Potamogetonaceae, Najadaceae

Ecological Expertise: aquatic plant ecology, microbial ecology

Dr. James A. Teeri Associate Professor University of Chicago Department of Biology 5630 S. Ingleside Ave. Chicago, IL 60637

Ph.D. Duke University 1972 Phone (312) 962-8933

Mr. Robert C. Thomas Environmental Specialist Illinois E.P.A. Technical Standards Unit 2200 Churchill Road Springfield, IL 62706

M.S. Western Illinois University 1982 Phone (217) 282-3362

Dr. Jamie E. Thomerson

Professor Southern Illinois University Department of Biology Box 65B Edwardsville, IL 62026

Ph.D. Tulane University 1965 Phone (618) 692-2975

Mr. John T. Thompson

Instructor Oak Lawn Community High School Science Department 9400 Southwest Highway Oak Lawn, IL 60453

M.S. University of Chicago 1975 Phone (312) 424-5200 Ext. 74

#383

Dr. Gordon Ray Thurow

Associate Professor Western Illinois University Department of Biological Sciences Macomb, IL 61455

Ph.D. Indiana University 1955 Phone (309) 298-1595

#384

Dr. Robert M. Timm **Assistant Curator** Field Museum of Natural History Division of Mammals Roosevelt Road at Lake Shore Drive Chicago, IL 60605-2496

Ph.D. University of Minnesota 1979 Phone (312) 922-9410

Organisms Worked With: 1 2 3

Systematic Techniques: 20 21 22 23 24 26 27 28 31

Ecological Interests: 34 35 36 40 42 43 45 47 49 50 51 57 60

Geographical Areas: Illinois, Michigan, North Carolina, Colorado,

Texas, New Mexico, Arizona, California, Oregon, Hawaii; Mexico; Australia

Organism Specialties: angiosperms and gymnosperms

Ecological Expertise: physiological ecology, population ecology

Organisms Worked With: 11 12 13 15

Systematic Techniques: Ecological Interests: 37 38 39

47 50 55 64

Geographical Areas:

Organism Specialties:

Ecological Expertise: aquatic ecology, environmental assessment

Organisms Worked With: 11

Systematic Techniques: 20 21 26 27 28 31 Ecological Interests: 37 38 39 41 42 43 47 48 50 51 52 62 63

Geographical Areas: Madison, St. Clair and Monroe Counties, Illinois; metropolitan St. Louis area; Midwest states; central America and northern South America

Organism Specialties: Cyprinodontiformes - Cyprinodontidae

Ecological Expertise: natural history and community structure of fish communities

Organisms Worked With: 8 11 12 Systematic Techniques:

Ecological Interests:

46 51 66

Geographical Areas: Illinois prairies; tropical rain forests; national parks of U.S.A. and Costa Rica

Organism Specialties:

Ecological Expertise: population biology of Illinois prairie insects; 17 yr. cicada and the fungus Massosspora cicadina; evolution of driptips in tropical forests; tropical forest preservation; environmental education

Organisms Worked With: 10 Systematic Techniques: 20 21 27 31

Ecological Interests: 40 42

46 51 57 58 61

Geographical Areas: McDonough County and southern Illinois Organism Specialties: Plethodontid salamanders - Plethodon

Ecological Expertise: ecology and natural history of amphibians and reptiles, and their ability to cope with environmental disturbance

Organisms Worked With: 8

Systematic Techniques: 20 21 28 30 31

Ecological Interests: 40 42 48 51

Geographical Areas: Minnesota, Nebraska; Costa Rica; Ecuador

Organism Specialties: Rodentia; Chiroptera

Ecological Expertise:

Dr. Michael E. Toliver Assistant Professor

Eureka College Division of Science & Math

300 E. College Eureka, IL 61530

Ph.D. University of Illinois 1979 Phone (309) 467-3721 Ext. 241

#386

Dr. John A. Tranquilli Regional Director Ducks Unlimited

2107 Zuppke Drive Urbana, IL 61801

Ph.D. University of Illinois 1974 Phone (217) 328-5182

#387

Mr. W. Stan Tyson Owner & Curator Rivendell Botanic Garden P.O. Box 17 Beardstown, IL 62618

A.S. Danville Junior College 1978 Phone (217) 323-1745

#388

Dr. John Duane Unzicker

Associate Professional Scientist Illinois Natural History Survey Section of Faunistic Surveys 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1966 Phone (217) 333-6846

#389

Dr. Gerrit D. Van Dyke

Professor Trinity Christian College Biology Department 6601 W. Collge Drive Palos Heights, IL 60463

Ph.D. Iowa State University 1972 Phone (312) 597-3000 Ext. 57

#390

Dr. Louis Verner Assistant Professor Illinois Wesleyan University Biology Department Bloomington, IL 61702

Ph.D. University of Illinois 1979 Phone (309) 556-3056 Organisms Worked With: 12 Systematic Techniques: 21 22 27 28 Ecological Interests: 40 42 43

46 48 51 58

Geographical Areas: Woodford County, Illinois; New Mexico

Organism Specialties: Lepidoptera, especially Hesperioidea and

Papilionoidea

Ecological Expertise: mimicry, behavior

Organisms Worked With: 11 Systematic Techniques:

Ecological Interests: 37 38 39 40 41 42 43 44 45

46 50 52 58 62 65 66

Geographical Areas: Organism Specialties:

Ecological Expertise: effects of thermal effluents on aquatic ecosystems

Organisms Worked With: 1 2 3 Systematic Techniques: 21 26 27 31

Ecological Interests: 34 35 36 41 42 43 44 45

52 54 60 63

Geographical Areas: west central Illinois, northeastern Illinois;

northwestern Indiana; Missouri

Organism Specialties: Aceraceae, Betulaceae, Ericaceae, Pinaceae,

Salicaceae, Îridaceae, Liliaceae

Ecological Expertise: prairie and forest ecology: identification, inventory, restoration and management; horticultural ecology: propagation and habitat requirements of plants; botanic diversity

Organisms Worked With: 12 14

Systematic Techniques: 20 21 22 23 27 28 31

Ecological Interests: 34 37 40

63

Geographical Areas: west central Illinois, northeastern Illinois;

Africa; Australia

Organism Specialties: Insects - Trichoptera, Ephemeroptera and

Plecoptera

Arachnids - Araneae Ecological Expertise:

Organisms Worked With: 1 5 Systematic Techniques: 22 28

Ecological Interests: 35 36 39 40 41 42 43

58 59 60 62

Geographical Areas: Cook County, Illinois

Organism Specialties:

Ecological Expertise: wetland, forest and prairie ecology

Organisms Worked With: 1 8 Systematic Techniques:

Ecological Interests: 34 35 40 42

46 48 51 52 58 59

Geographical Areas: McLean County, Illinois

Organism Specialties:

Ecological Expertise: small mammal population biology, behavioral ecology of small mammals; reproductive biology of spring woodland ephemerals

Dr. James M. Veselenak

Assistant Professor Sangamon State University Medical Technology Program Springfield, IL 62708

Ph.D. Michigan State University 1981 Phone (217) 786-6648

#392

Mr. William Steven Vinikour

Environmental Scientist Argonne National Laboratory Environmental Research Division 9700 S. Cass Avenue Argonne, IL 60439

M.S. Northern Illinois University 1977 Phone (312) 972-5113

#393

Dr. David J. Voegtlin

Assistant Taxonomist Illinois Natural History Survey Sec. Faunistics & Insect Identification 607 E. Peabody Drive Champaign, IL 61820

Ph.D. Univ. of California-Berkeley 1976 Phone (217) 333-6846

#394

Dr. Harold K. Voris

Associate Curator & Division Head Field Museum of Natural History Division of Amphibians and Reptiles Roosevelt Road and Lake Shore Drive Chicago, IL 60605

Ph.D. University of Chicago 1969 Phone (312) 922-9410 Ext. 271

#395

Dr. John A. Wagner

Professor Kendall College Department of Biology 2408 Orrington Evanston, IL 60201

Ph.D. Northwestern University 1962 Phone (312) 866-1373

#396

Mr. Stephen W. Waite

Associate Supportive Scientist Illinois Natural History Survey Section of Aquatic Biology 607 E. Peabody Drive Champaign, IL 61820

Phone (217) 333-0006

Organisms Worked With: 5 Systematic Techniques: 20 27 33

Ecological Interests: 42

Geographical Areas: Sangamon County, central Illinois Organism Specialties: Basidiomycetes - Holobasidiomycetidae; Deuteromycetes - Hyphomycetidae

Ecological Expertise:

Organisms Worked With: 11 12 13 15

Systematic Techniques: 21 27

Ecological Interests: 34 35 36 37 38 39 40 41 42 43 45 46 47 48 50 52 57 58 60 61 63 64 66

Geographical Areas: Kane and Macoupin Counties, Mississippi River, Illinois; Alabama; Ohio; Wyoming

Organism Specialties: aquatic insects

Ecological Expertise: life history and symbiotic associations of fish and macroinvertebrates; pollution ecology, environmental assessment of energy developments and associated impacts (waste disposal, transmission)

Organisms Worked With: 12

Systematic Techniques: 21 24 27 28 30 33

Ecological Interests: 34 40 42 43

48 58

Geographical Areas:

Organism Specialties: Homoptera - Aphididae

Ecological Expertise:

Organisms Worked With: 10

Systematic Techniques: 20 21 22 23 27 30 31

Ecological Interests: 37 38 40 42 43

46 47 48 51 52

Geographical Areas: Malaysia, Southeast Asia

Organism Specialties: Hydrophiidae

Ecological Expertise:

Organisms Worked With: 12 Systematic Techniques: 20 21 27 28 Ecological Interests: 36 40 42 43

50 63

Geographical Areas: Livingston, Cook and adjacent counties, Illinois;

southeastern states; West Indies; Central America Organism Specialties: Coleoptera - Pselaphidae

Ecological Expertise: basic ecosystem analysis, eastern deciduous forest

Organisms Worked With: 7 11 13 18 19

Systematic Techniques: 20

Ecological Interests: 37 38 39 41 42 43 44 45

49 50 52 56 62

Geographical Areas: central Illinois

Organism Specialties: Crustacea: Branchiopoda - Cladocera; Copepoda -

Calanoida, Cyclopoida; Rotifera: Monogononta - Ploima

Ecological Expertise:

Dr. Gilbert P. Waldbauer

Professor University of Illinois

Department of Entomology

320 Morrill Hall, 505 S. Goodwin Avenue

Urbana, IL 61801

Ph.D. University of Illinois 1960

Phone (217) 359-3124

#398

Mr. Harlan D. Walley

Head Animal Caretaker Northern Illinois University Department of Biological Sciences

De Kalb, IL 60115

Phone (815) 753-0433

#399

Mr. Stephen J. Walsh

Graduate Student University of Florida

Dept. of Zoology/Florida State Museum

Gainesville, FL 32611

M.A. So. Illinois Univ.-Carbondale 1982

Phone (904) 392-1721

#400

Dr. George H. Waring

Professor

Southern Illinois University Department of Zoology Carbondale, IL 62901

Ph.D. Colorado State University 1966

Phone (618) 536-2314

#401

Dr. Richard E. Warner

Associate Wildlife Ecologist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1981

Phone (217) 333-7513

#402

Dr. John E. Warnock

Director

Western Illinois University Institute for Environmental Management

Macomb, IL 61455

Ph.D. University of Wisconsin-Madison 1963

Phone (309) 298-1265

Organisms Worked With: 12 Systematic Techniques:

Ecological Interests: 36 40 42 43 46 51 58

Geographical Areas: Champaign and Piatt Counties, Illinois; Emmet and

Cheboygan Counties, Michigan

Organism Specialties:

Ecological Expertise: insect-host plant interactions; mimicry;

behavioral and physiological ecology

Organisms Worked With: 8 9 10 11 Systematic Techniques: 20 21 28 Ecological Interests: 34 35 36 40 42 43

48 51 52

Geographical Areas: DeKalb and LaSalle Counties, northern Illinois;

Southeast Asia, Korea, China and Japan

Organism Specialties: Mammalia - Chiroptera - Vespertilionidae;

Reptilia - Lacertidae - Takydromus and related genera

Ecological Expertise:

Organisms Worked With: 11

Systematic Techniques: 20 21 23 24 27 28 30 31

Ecological Interests: 37 38 40 41 42

46 48 51 52 57 64

Geographical Areas: southern Illinois; central and southeastern states

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 8 9 10 11

Systematic Techniques: Ecological Interests:

Geographical Areas: Organism Specialties:

Ecological Expertise: applied ethology

Organisms Worked With: 8 9 Systematic Techniques:

Ecological Interests: 34 36 41 43 45

48 49 52 54 55 56 57 58 62

Geographical Areas: Illinois

Organism Specialties:

Ecological Expertise: interactions of agricultural land use and upland wildlife; population ecology of ring-necked pheasants; biostatistics and

models

Organisms Worked With: 8 9 Systematic Techniques:

Ecological Interests: 34 40 41 42 43

46 48 50 52 62 63

Geographical Areas: west central Illinois

Organism Specialties: Rodentia - Chiroptera; Galliformes

Ecological Expertise: wildlife ecology; wild populations in relation to land use; small mammal populations; natural area preservation, preserve establishment and management, endangered species; biological field stations

Dr. Donald W. Webb Insect Taxonomist Illinois Natural History Survey Sec. Faunistics & Insect Identification 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Illinois 1981

Phone (217) 333-6846

#404

Dr. Barbara C. Weber
Entomologist & Project Leader
Southern Illinois University
USDA Forest Service
Forestry Sciences Laboratory
Carbondale, IL 62901

Ph.D. So. Illinois Univ.-Carbondale 1982 Phone (618) 453-2318

#405

Mr. Lawrence J. Weider

Graduate Student/Research Assistant University of Illinois Dept. of Ecology, Ethology & Evolution 606 E. Healey Street Champaign, IL 61820

B.S. St. Bonaventure University 1978 Phone (217) 333-2235

#406

Mr. Robert Arnold Wengrow Rockford Region Manager Illinois E.P.A. Division of Land Pollution and Control P.O. Box 915 Rockford, IL 61105

B.S. So. Illinois Univ.-Carbondale 1971 Phone (815) 987-7404

#407

Dr. Rupert Leon Wenzel Curator Emeritus, Insects Field Museum of Natural History Division of Insects Roosevelt Road at Lake Shore Drive Chicago, IL 60605

Ph.D. University of Chicago 1962 Phone (312) 922-9410

#408

Dr. David Lloyd West Assistant Professor Sangamon State University

Department of Biology Shepherd Road Springfield, IL 62708

Ph.D. Northeastern University 1976 Phone (217) 786-6630 Organisms Worked With: 12

Systematic Techniques: 20 21 23 27 28 Ecological Interests: 36 39 40 42

46 48 51

Geographical Areas: Illinois and worldwide

Organism Specialties: Diptera - Chironomidae, Coenomyiidae, Rachiceridae Atheridae, Solvidae, Xylophagidae, Glutopidae, Rhagionidae; Mecoptera -Meropeidae, Boreidae, Panorpodidae, Panorpidae, Bittacidae Ecological Expertise:

Organisms Worked With: 5 12 Systematic Techniques: 20 21 27 28 Ecological Interests: 34 35 41 42 45

48 58

Geographical Areas: southern Illinois; Indiana; Michigan; eastern states

Organism Specialties: Insecta - Coleoptera - Scolytidae - (ambrosia beetles)

Ecological Expertise: ambrosia beetle/symbiotic microorganisms and their relationships with host trees; species diversity within a community

Organisms Worked With: 13 Systematic Techniques: 22 26 27 31 Ecological Interests: 37 40 42 44 48 51 57

Geographical Areas: Champaign and Vermilion Counties, Illinois

Organism Specialties: Cladocera - Daphnidae - Daphnia pulex

Ecological Expertise: aquatic ecology, population ecology, ecological genetics

Organisms Worked With: 8 Systematic Techniques: Ecological Interests: 39 40 44 50 53 62

Geographical Areas: northwest Illinois

Organism Specialties:

Ecological Expertise:

Organisms Worked With: 12 Systematic Techniques: 20 21 23 27 28 30 33

Ecological Interests: 34 35 36 40 42

47 51 54

Geographical Areas: worldwide, especially the Holarctic region, Central America, South America and the West Indies Organism Specialties: Insecta - Diptera - Streblidae, Nycteribiidae; Coleoptera - Histeridae

Ecological Expertise:

Organisms Worked With: 15 17 Systematic Techniques: 20 27 28 31 33 Ecological Interests:

Geographical Areas: worldwide

Organism Specialties: Hydrozoa - Campanulariidae (calypoblastic/

leptomedusae) Ecological Expertise:

Mr. K. Andrew West

District Biologist Illinois Department of Conservation Div. of Forest Resources & Nat. Heritage P.O. Box 67 Goreville, IL 62939

M.A. So. Illinois Univ.-Carbondale 1975 Phone (618) 995-2568

#410

Mr. Ronald L. Westemeier

Associate Wildlife Ecologist Illinois Natural History Survey Section of Wildlife Research 304 Poplar Drive Effingham, IL 62401

M.S. Univ. of Wisconsin-Madison 1969 Phone (618) 783-4125

#411

Mr. Mark J. Wetzel

Assistant Supportive Scientist Illinois Natural History Survey Sec. Faunistics & Insect Identification 607 E. Peabody Drive Champaign, IL 61820

M.S. Eastern Illinois University 1981

Phone (217) 333-6846

#412

Mr. David F. Whitacre

Graduate Student University of California Department of Zoology Davis, CA 59616

B.A. The Evergreen State College 1973

Phone (916) 752-2938

#413

Mr. John White

904 S. Anderson Street Urbana, IL 61801

Phone (217) 367-8770

#414

Dr. W. Sedgefield White

Environmental Scientist Argonne National Laboratory **Environmental Research Division** 9700 S. Cass Avenue Argonne, IL 60439

Ph.D. Michigan State University 1974 Phone (312) 972-3169

Organisms Worked With: 1 2 3 4 5 6 8 9 10

Systematic Techniques: 20 21 27 28 31 Ecological Interests: 36 39 41 42 45 47 50 52 62

Geographical Areas: southern Illinois

Organism Specialties: Basidiomycetes - Aphyllophorales

Ecological Expertise: applied ecology; natural areas management

Organisms Worked With: 1 8 9 Systematic Techniques: 21 27 28 31 Ecological Interests: 34 35 40 41 45 46 48 52 54 58 62 63

Geographical Areas: Jasper and Marion Counties, southern Illinois; Wisconsin, Michigan, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas, Missouri and Colorado

Organism Specialties: Aves- Galliformes - Phasianidae - Tympanuchus

cupido, Phasianus colchicus, Colinus virginianus

Ecological Expertise: prairie grouse ecology, grassland wildlife ecology (especially nest ecology)

Organisms Worked With: 8 9 10 11 12 15 16 Systematic Techniques: 20 21 27 28 31 Ecological Interests: 34 35 36 37 38 39 40 42 43

46 47 48 50 57 58

Geographical Areas: Illinois; Kansas, Kentucky, Maine, Washington,

Colorado, Utah and Missouri

Organism Specialties: freshwater Annelida: Aeolosomatida, Branchiobdellida, Hirudinea, Oligochaeta, Polychaeta; endangered and threatened species of vertebrates

Ecological Expertise: benthos; endangered and threatened species of vertebrates

Organisms Worked With: 8 9 10 11 12

Systematic Techniques: 20 33 Ecological Interests: 34 35 40 41 42 46 50 51 52 53 57 66

Geographical Areas: Jackson and Union Counties, southern Illinois; montane regions of western U.S.A.; neotropics, especially Mexico (Chiapas,

San Luis Potasi)

Organism Specialties: falcons and other birds of prey, swifts, passerines; mammals: mustelids and carnivores; reptiles: snakes, especially Crotalids, Elaphe, Lampropeltis and Natrix; small stream fishes Ecological Expertise: vertebrate field biology, ecology of vertebrate and insect populations and communities; environmental assessment; comparative ecology of swifts; predation ecology; environmental education

Organisms Worked With: 1 2 3 8 9 10 11

Systematic Techniques:

Ecological Interests: 35 36 38 39 40 42

47 50 58 59 60 63

Geographical Areas: Organism Specialties: Ecological Expertise:

Organisms Worked With: 7 10 11

Systematic Techniques:

Ecological Interests: 36 37 38 39 41 42 43

50 58 61

Geographical Areas: Great Lakes

Organism Specialties:

Ecological Expertise:

Dr. Wesley C. Whiteside

Professor Eastern Illinois University Department of Botany Charleston, IL 61920

Ph.D. Florida State University 1959 Phone (217) 581-3525

#416

Dr. Larry Stephen Whitley

Professor Eastern Illinois University Department of Zoology Charleston, IL 61920

Ph.D. Purdue University 1963 Phone (217) 581-2500

#417

Dr. Gregory S. Whitt

Professor University of Illinois Dept. of Genetics & Development 515 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

Ph.D. Yale University 1970 Phone (217) 333-4645

#418

Dr. Donald T. Wicklow

Microbiologist Northern Regional Research Center Agricultural Research Culture Collection 1815 N. University Street Peoria, IL 61604

Ph.D. University of Wisconsin 1971 Phone (309) 685-4011 Ext. 267

#419

Dr. Michael J. Wiley

Assistant Professional Scientist Illinois Natural History Survey Section of Aquatic Biology 607 E. Peabody Drive Champaign, IL 61820

Ph.D. University of Michigan 1980 Phone (217) 333-6889

#420

Dr. Gerould S. Wilhelm Research Taxonomist/Ecologist The Morton Arboretum Research Department Lisle, IL 60532

B.S. Florida State University 1971 Phone (312) 968-0074 Organisms Worked With: 1 2 5 6 Systematic Techniques: 22 27

Ecological Interests:

Geographical Areas: Coles and Clark Counties, Illinois

Organism Specialties: fungi and lichens

Ecological Expertise:

Organisms Worked With: 16 Systematic Techniques: 20 22 27 Ecological Interests: 37 38 39 40 42 43

50 57

Geographical Areas: Illinois, especially east central Illinois;

southeastern states

Organism Specialties: Oligochaeta, Tubificidae

Ecological Expertise: benthic communities in natural and disturbed

environments

Organisms Worked With: 11

Systematic Techniques: 22 23 25 26 30 32 Ecological Interests: 37 40 41 42 44 51 57 66

Geographical Areas:

Organism Specialties: Perciformes, Centrarchidae - Lepomis, Micropterus

Ecological Expertise: biochemical aspects of ecological genetics

Organisms Worked With: 5 Systematic Techniques: 21 27 28 Ecological Interests: 35 40 41 42 45

47 51 58 63

Geographical Areas: U.S.A.; presently Georgia and Arizona

Organism Specialties: Eurotiales - Aspergillaceae - Aspergillus,

Penicillium

Ecological Expertise: seed germination of post-fire chaparral annuals; organization of soil fungal communities; coprophilous fungi; mycotoxigenic

fungi in cereal ecosystems

Organisms Worked With: 11 12 13 15 16 17 Systematic Techniques:

Ecological Interests: 37 38 39 40 41 42 45

46 48 49 50 55 57 58 62

Geographical Areas: Illinois, Michigan

Organism Specialties: aquatic insects: Chironomidae, Ephemeroptera

Ecological Expertise:

Organisms Worked With: 1 2 3 6

Systematic Techniques: 22

Ecological Interests: 35 36 38 39 41 42 43 44 45

47 50 61 62 63 65

Geographical Areas: Chicago region (Illinois, Wisconsin, Indiana and

Michigan); Alabama; Florida and Missouri

Organism Specialties: vascular plants and macrolichens

Ecological Expertise: management of natural lands; revegetation of problem soils; natural area assessment

Dr. Ruth L. Willey Associate Professor University of Illinois Department of Biological Sciences Box 4348 Chicago, IL 60680

Ph.D. Radcliffe College 1956 Phone (312) 996-8674

#422

Dr. Thomas A. Williams Assistant Professor North Central College Department of Biology 29 N. Brainard Street Naperville, IL 60566

Ph.D. Washington State University 1984 Phone (312) 420-3489

#423

Dr. William Evan Williams Assistant Professor Trinity College Department of Biology Hartford CT, 06106

Ph.D. Stanford University 1981 Phone (203) 527-3151 ext. 570

#424

Dr. Mary F. Willson Professor University of Illinois Dept. of Ecology, Ethology & Evolution 606 E. Healey Street Champaign, IL 61820

Ph.D. University of Washington 1964 Phone (217) 333-0608

#425

Dr. Karin Wisiol
Plant Physiologist
U.S. Department of Agriculture
Agricultural Research Service
614 Indian Road
Glenview, IL 60025

Ph.D. University of Illinois-Chicago 1982 Phone (312) 729-3294

#426

Dr. James H. Witham Assistant Supportive Scientist Illinois Natural History Survey Section of Wildlife Research 607 E. Peabody Dr. Champaign, IL 61820

Ph.D. Colorado State University 1983 Phone (217) 333-6855 Organisms Worked With: 7 12 Systematic Techniques: 20 21 24 27 Ecological Interests: 37 38 40 42 44 46 48 51 57 58

Geographical Areas: northern Illinois, northwest Indiana, western

Colorado

Organism Specialties: algae: Euglenales; insects: Odonata

Ecological Expertise: behavioral interactions between unicellular organisms (mainly algae) and invertebrate hosts; epibiosis and symbiosis

Organisms Worked With: 10 Systematic Techniques: 20 23 27 33 Ecological Interests: 34 37 40 42 46 51 66 Geographical Areas: North America

Organism Specialties: Ambystomatidae

Ecological Expertise:

Organisms Worked With: 1 2 Systematic Techniques: 20 21 33 Ecological Interests: 35 42

Geographical Areas: Champaign County, Illinois; California; New England Organism Specialties:

Ecological Expertise: plant physiological ecology, especially stomatal control, photosynthesis, heat exchange and elevated carbon dioxide levels

Organisms Worked With: 1 9 Systematic Techniques: Ecological Interests: 34 35 40 42 43 46 48 51 58

Geographical Areas: Champaign, Piatt, Vermilion and Douglas Counties, Illinois; Minnesota, Wisconsin

Organism Specialties:

Ecological Expertise: plant reproduction; pollination, floral display, life history, seed dispersal

Organisms Worked With: 1 5 8 12 16

Systematic Techniques: 21

Ecological Interests: 35 36 41 42 43 45

55 56 58 59 60 61 62

Geographical Areas: Midwest, north-central and Great Plains states; Africa; Asia; Australia; New Zealand; South America and Central America Organism Specialties: Poaceae, Fabaceae; Nematoda; ungulates

Ecological Expertise: modelling; grazingland ecology; crop ecology

Organisms Worked With: 8 Systematic Techniques:

Ecological Interests: 34 41 43 45

48 50 52 53 58 62 64

Geographical Areas: southwestern states, Sonoran Desert

Organism Specialties: ungulates

Ecological Expertise:

Dr. Gertraude C. Wittig

Professor

Southern Illinois University Department of Biological Sciences

Edwardsville, IL 62026

Ph.D. Univ. of Tubingen-Germany 1955

Phone (618) 692-3927

#428

Mr. Lorne Mark Wolfe

Graduate Student University of Illinois

Dept. of Ecology, Ethology, & Evolution

606 E. Healy Street Champaign, IL 61820

M.Sc. University of Toronto 1984

Phone (217) 333-2235

#429

Dr. Robert S. Wolff

Instructor of Biology Trinity Christian College Department of Biology 6601 W. College Drive Palos Heights, IL 60463

Ph.D. University of Wisconsin-Milwaukee 1984

Phone (312) 597-3000 Ext. 57

#430

Dr. A. Michelle Wood

Postdoctoral Fellow University of Chicago

Biophysics and Theoretical Biology

920 E. 58

Chicago, IL 60637

Ph.D. University of Georgia 1980

#431

Dr. William M. Zales

Botany Instructor Joliet Junior College Biology Department 1216 Houbolt Road Joliet, IL 60436

Ph.D. Univ. of British Columbia 1972

Phone (815) 729-9020

#432

Dr. Arthur Rainer Zangerl

Research Associate University of Illinois Department of Entomology 320 Morrill Hall, 505 S. Goodwin Avenue Urbana, IL 61801

Ph.D. University of Illinois 1980

Phone (217) 333-7784

Organisms Worked With: 12 Systematic Techniques: 20 24 27

Ecological Interests:

Geographical Areas:

Organism Specialties: Insecta - Haliplidae

Ecological Expertise:

Organisms Worked With: 1 12 Systematic Techniques: 26 31 Ecological Interests: 37 40 42

Geographical Areas:

Organism Specialties: Pontederiaceae - Pontederia cordata: Sarraceniaceae - Sarracenia purpurea; Insecta - Bombus

Ecological Expertise: pollination biology, plant reproductive biology,

foraging behavior of bees

Organisms Worked With: 14 16

Systematic Techniques: 20 21 22 23 28 30

Ecological Interests: 35

46 48 58

46 51 58

Geographical Areas: Nearctic and Neotropics

Organism Specialties: Oligochaeta - Lumbricidae, Enchytraeidae;

Arachnida, Araneae - Salticidae, Lycosidae, Senoculidae

Ecological Expertise:

Organisms Worked With: 1 7 19 Systematic Techniques: 21 27 31 33

Ecological Interests: 37 38 39 40 42 44 $47\ 50\ 51\ 55\ 56\ 57\ 58\ 59\ 63$

Geographical Areas: continental shelf, estuarine and oceanic systems

of the Atlantic, Gulf of Mexico and Caribbean Sea

Organism Specialties: marine phytoplankton: Bacillariophyceae, Dinophyceae, Haptophyceae, Cyanophyceae, etc.

Ecological Expertise: aquatic microbial ecology, photosynthesis and

primary production, trace metal biogeochemistry, phytoplankton ecology and

evolution

Organisms Worked With: 1 4 6 8 9 11

Systematic Techniques: 21 27 30 Ecological Interests: 42 43 45

52 62 63

Geographical Areas: Will County and adjacent areas, Illinois

Organism Specialties: Bryophyta - Philonotis

Ecological Expertise:

Organisms Worked With: 1 12 Systematic Techniques:

Ecological Interests: 34 40 42 43

51 57 58 59 60 63 65

Geographical Areas: Champaign County, Illinois

Organism Specialties:

Ecological Expertise: plant population variation and ecological

variation

Dr. Jerrold H. Zar Professor & Chairman Northern Illinois University Department of Biological Sciences De Kalb, IL 60115-2861

Phone (815) 753-0433

#434

Dr. Craig A. Zimmerman Professor and Chairman Aurora College Department of Biology 347 S. Gladstone Aurora, IL 60506

Ph.D. University of Michigan 1969 Phone (312) 892-6431

#435

Dr. U. Douglas Zimmerman Associate Professor Eastern Illinois University Department of Botany Charleston, IL 61920

Ph.D. University of Missouri-Columbia 1971 Phone (217) 581-3525 Organisms Worked With: 8 9 12

Systematic Techniques:

Ecological Interests: 35 38 40 41 42 43

49 50 53 57

Geographical Areas: Organism Specialties:

Ecological Expertise: statistical analysis of research data

Organisms Worked With: 1 9 Systematic Techniques: Ecological Interests: 40 43

46 51 56 57 60 65

Geographical Areas:

Organism Specialties: Portulaca

Ecological Expertise: physiological ecology of weeds; imprinting in game birds; changes in disturbed streams

Organisms Worked With: 1 Systematic Techniques:

Ecological Interests: 34 35 36 40 41 42 43 44 45

59 60 62 63 65

Geographical Areas: Coles County, Illinois

Organism Specialties:

Ecological Expertise: effects of land use on vegetation, and of vegetation on land use; adventive species encroachment into adjacent vegetation; establishment and maintenance of tallgrass prairie

5. Index

Numbers in the body of all indices refer to the record number of respondents listed alphabetically in Section 4.2.

5.1 Categorical Response Index

5.1.1 ORGANISMS WORKED WITH:

GROUP NUMBER 1 — FLOWERING PLANTS

 $\begin{array}{c} 2,\ 3,\ 8,\ 12,\ 13,\ 15,\ 17,\ 18,\ 20,\ 23,\ 24,\ 27,\ 28,\ 30,\ 31,\ 35,\ 36,\ 40,\ 41,\ 42,\ 47,\ 51,\ 55,\ 57,\ 59,\ 61,\ 62,\ 65,\ 68,\ 71,\ 75,\ 81,\ 83,\ 85,\ 90,\ 92,\ 93,\ 96,\ 98,\ 99,\ 101,\ 102,\ 108,\ 109,\ 113,\ 115,\ 119,\ 120,\ 122,\ 123,\ 125,\ 127,\ 132,\ 133,\ 137,\ 140,\ 141,\ 142,\ 143,\ 148,\ 149,\ 150,\ 151,\ 154,\ 160,\ 165,\ 167,\ 168,\ 171,\ 173,\ 174,\ 181,\ 183,\ 185,\ 186,\ 187,\ 188,\ 190,\ 193,\ 194,\ 197,\ 198,\ 199,\ 204,\ 207,\ 209,\ 216,\ 218,\ 224,\ 226,\ 228,\ 229,\ 235,\ 237,\ 238,\ 243,\ 245,\ 246,\ 248,\ 250,\ 253,\ 254,\ 256,\ 258,\ 259,\ 260,\ 263,\ 268,\ 269,\ 270,\ 272,\ 273,\ 276,\ 279,\ 281,\ 283,\ 285,\ 286,\ 290,\ 291,\ 292,\ 298,\ 299,\ 302,\ 305,\ 306,\ 308,\ 312,\ 313,\ 315,\ 316,\ 317,\ 319,\ 320,\ 330,\ 331,\ 332,\ 333,\ 335,\ 336,\ 337,\ 342,\ 348,\ 350,\ 352,\ 353,\ 355,\ 368,\ 372,\ 373,\ 375,\ 377,\ 378,\ 379,\ 387,\ 389,\ 390,\ 409,\ 410,\ 413,\ 420,\ 423,\ 424,\ 425,\ 428,\ 430,\ 431,\ 432,\ 434,\ 435 \end{array}$

GROUP NUMBER 2 — GYMNOSPERMS

12, 15, 42, 47, 51, 59, 75, 93, 99, 101, 108, 109, 127, 132, 140, 141, 150, 151, 167, 174, 185, 194, 197, 204, 207, 209, 216, 218, 246, 256, 268, 273, 279, 294, 320, 331, 336, 350, 352, 353, 355, 364, 373, 377, 379, 387, 409, 413, 420, 423

GROUP NUMBER 3 - FERNS AND FERN ALLIES

12, 15, 47, 75, 93, 99, 101, 102, 108, 123, 132, 140, 141, 150, 151, 167, 174, 185, 194, 197, 204, 207, 209, 218, 231, 243, 246, 250, 256, 259, 268, 279, 294, 302, 308, 331, 336, 337, 352, 353, 355, 364, 366, 373, 379, 387, 409, 413, 420

GROUP NUMBER 4 — BRYOPHYTES

 $15,\ 17,\ 97,\ 123,\ 141,\ 174,\ 209,\ 246,\ 268,\ 279,\ 280,\ 306,\ 308,\ 326,\ 355,\ 356,\ 367,\ 409,\ 431$

GROUP NUMBER 5 - FUNGI

13, 18, 62, 80, 117, 123, 132, 141, 155, 162, 190, 205, 209, 232, 244, 245, 254, 258, 269, 326, 334, 344, 355, 371, 389, 391, 404, 409, 415, 418, 425

GROUP NUMBER 6 — LICHENS

13, 15, 17, 80, 84, 141, 209, 243, 246, 285, 334, 344, 347, 367, 409, 415, 420, 431

GROUP NUMBER 7 - ALGAE

3, 6, 42, 52, 55, 58, 62, 76, 123, 127, 134, 141, 144, 157, 197, 215, 226, 228, 235, 248, 256, 258, 263, 270, 277, 280, 289, 311, 355, 369, 396, 414, 421, 430

GROUP NUMBER 8 - MAMMALS

 $\begin{array}{c} 4,\ 15,\ 19,\ 24,\ 29,\ 35,\ 37,\ 38,\ 42,\ 47,\ 48,\ 59,\ 71,\ 74,\ 94,\ 101,\ 104,\ 105,\ 106,\ 111,\ 114,\ 116,\ 118,\ 123,\ 127,\ 128,\ 130,\ 132,\ 136,\ 138,\ 139,\ 140,\ 143,\ 145,\ 148,\ 158,\ 159,\ 164,\ 167,\ 175,\ 183,\ 187,\ 189,\ 195,\ 198,\ 203,\ 209,\ 217,\ 224,\ 230,\ 235,\ 236,\ 238,\ 242,\ 249,\ 250,\ 252,\ 255,\ 266,\ 267,\ 278,\ 279,\ 285,\ 287,\ 288,\ 295,\ 296,\ 302,\ 303,\ 307,\ 309,\ 320,\ 321,\ 322,\ 323,\ 325,\ 327,\ 328,\ 333,\ 335,\ 338,\ 340,\ 341,\ 345,\ 349,\ 358,\ 370,\ 372,\ 382,\ 384,\ 390,\ 398,\ 400,\ 401,\ 402,\ 406,\ 409,\ 410,\ 411,\ 412,\ 413,\ 425,\ 426,\ 431,\ 433 \end{array}$

GROUP NUMBER 9 — BIRDS

3, 4, 9, 10, 13, 15, 29, 35, 36, 37, 39, 42, 47, 56, 59, 71, 78, 94, 101, 103, 114, 116, 123, 127, 132, 133, 139, 140, 143, 145, 148, 166, 167, 179, 183, 184, 187, 189, 196, 197, 198, 209, 211, 230, 238, 248, 250,

274, 279, 288, 295, 296, 302, 305, 312, 318, 320, 321, 322, 325, 327, 332, 333, 335, 338, 340, 341, 368, 370, 372, 373, 376, 398, 400, 401, 402, 409, 410, 411, 412, 413, 424, 431, 433, 434

GROUP NUMBER 10 — REPTILES AND AMPHIBIANS

15, 16, 21, 29, 33, 35, 43, 47, 50, 55, 69, 73, 82, 88, 123, 124, 127, 132, 145, 148, 161, 163, 167, 170, 177, 182, 189, 197, 202, 213, 227, 230, 233, 239, 242, 250, 257, 261, 262, 264, 276, 279, 288, 295, 296, 302, 309, 312, 313, 320, 321, 331, 343, 347, 368, 372, 383, 394, 398, 400, 409, 411, 412, 413, 414, 422

GROUP NUMBER 11 — FISHES

 $\begin{array}{c} 1,\ 11,\ 22,\ 26,\ 34,\ 53,\ 55,\ 58,\ 60,\ 63,\ 66,\ 71,\ 76,\ 87,\ 88,\ 89,\ 100,\ 123,\ 127,\ 129,\ 132,\ 147,\ 152,\ 167,\ 169,\ 176,\ 179,\ 180,\ 182,\ 184,\ 186,\ 192,\ 201,\ 202,\ 209,\ 210,\ 213,\ 216,\ 222,\ 228,\ 229,\ 233,\ 240,\ 249,\ 262,\ 263,\ 274,\ 276,\ 282,\ 289,\ 293,\ 295,\ 296,\ 299,\ 302,\ 304,\ 310,\ 311,\ 312,\ 320,\ 321,\ 329,\ 343,\ 346,\ 354,\ 359,\ 362,\ 363,\ 372,\ 374,\ 378,\ 380,\ 381,\ 382,\ 386,\ 392,\ 396,\ 398,\ 399,\ 400,\ 411,\ 412,\ 413,\ 414,\ 417,\ 419,\ 431 \end{array}$

GROUP NUMBER 12 — INSECTS

 $\begin{array}{c} 1,\ 5,\ 7,\ 14,\ 15,\ 24,\ 25,\ 28,\ 31,\ 32,\ 40,\ 42,\ 44,\ 45,\ 46,\ 49,\ 54,\ 55,\ 64,\\ 66,\ 67,\ 70,\ 71,\ 72,\ 79,\ 81,\ 82,\ 86,\ 95,\ 108,\ 112,\ 121,\ 122,\ 123,\ 124,\\ 125,\ 132,\ 135,\ 145,\ 146,\ 149,\ 152,\ 153,\ 156,\ 167,\ 171,\ 172,\ 178,\ 182,\\ 185,\ 186,\ 189,\ 200,\ 202,\ 206,\ 208,\ 209,\ 210,\ 211,\ 212,\ 216,\ 217,\ 219,\\ 221,\ 223,\ 225,\ 231,\ 232,\ 237,\ 240,\ 241,\ 245,\ 247,\ 251,\ 262,\ 270,\ 271,\\ 276,\ 283,\ 284,\ 289,\ 292,\ 295,\ 299,\ 300,\ 301,\ 302,\ 304,\ 311,\ 312,\ 314,\\ 324,\ 330,\ 331,\ 332,\ 337,\ 340,\ 342,\ 346,\ 357,\ 360,\ 361,\ 368,\ 380,\ 382,\\ 385,\ 388,\ 392,\ 393,\ 395,\ 397,\ 403,\ 404,\ 407,\ 411,\ 412,\ 419,\ 421,\ 425,\\ 427,\ 428,\ 432,\ 433\\ \end{array}$

GROUP NUMBER 13 — CRUSTACEANS

1, 7, 15, 34, 45, 52, 55, 58, 63, 66, 81, 123, 144, 182, 186, 201, 216, 221, 234, 241, 262, 263, 276, 282, 295, 297, 300, 302, 311, 312, 357, 363, 380, 392, 396, 405, 419

GROUP NUMBER 14 — ARACHNIDS

15, 111, 112, 132, 189, 191, 217, 292, 295, 297, 302, 388, 429

GROUP NUMBER 15 — MOLLUSKS

7, 29, 45, 55, 58, 63, 66, 71, 82, 87, 88, 89, 107, 110, 118, 123, 182, 186, 212, 221, 228, 229, 241, 276, 295, 300, 311, 312, 320, 333, 351, 354, 372, 380, 392, 408, 411, 419

GROUP NUMBER 16 — WORMS

1, 7, 55, 66, 87, 91, 182, 186, 217, 241, 265, 276, 300, 311, 312, 411, 416, 419, 425, 429

GROUP NUMBER 17 — COELENTRATES

7, 107, 408, 419,

GROUP NUMBER 18 — PROTOZOANS

6, 55, 217, 220, 245, 275, 276, 359, 370, 396

GROUP NUMBER 19 — OTHER ORGANISM GROUPS

7, 91, 96, 107, 126, 135, 138, 191, 214, 217, 232, 235, 263, 277, 297, 334, 356, 396, 430

5.1.2 SYSTEMATIC TECHNIQUES USED:

GROUP NUMBER 20 - ANATOMY

 $\begin{array}{c} 5,\ 21,\ 22,\ 23,\ 33,\ 40,\ 42,\ 43,\ 44,\ 46,\ 48,\ 50,\ 53,\ 59,\ 60,\ 64,\ 66,\ 68,\ 69,\ 74,\ 75,\ 78,\ 84,\ 91,\ 95,\ 98,\ 100,\ 104,\ 105,\ 106,\ 107,\ 110,\ 116,\ 120,\ 124,\ 128,\ 130,\ 134,\ 135,\ 140,\ 142,\ 143,\ 145,\ 146,\ 149,\ 172,\ 175,\ 177,\ 180,\ 182,\ 188,\ 190,\ 191,\ 193,\ 198,\ 199,\ 200,\ 201,\ 206,\ 213,\ 220,\ 223,\ 227,\ 237,\ 239,\ 241,\ 247,\ 250,\ 255,\ 257,\ 259,\ 261,\ 264,\ 265,\ 267,\ 271,\ 272,\ 273,\ 276,\ 277,\ 280,\ 287,\ 293,\ 294,\ 295,\ 298,\ 299,\ 300,\ 309,\ 311,\ 312,\ 314,\ 328,\ 329,\ 331,\ 333,\ 335,\ 341,\ 344,\ 347,\ 351,\ 359,\ 362,\ 364,\ 367,\ 370,\ 371,\ 379,\ 381,\ 383,\ 384,\ 388,\ 391,\ 394,\ 395,\ 396,\ 398,\ 399,\ 403,\ 404,\ 407,\ 408,\ 409,\ 411,\ 412,\ 416,\ 421,\ 422,\ 423,\ 427,\ 429\\ \end{array}$

GROUP NUMBER 21 — BIOGEOGRAPHY

 $\begin{array}{c} 2,\ 5,\ 6,\ 9,\ 15,\ 16,\ 21,\ 22,\ 23,\ 25,\ 31,\ 33,\ 35,\ 39,\ 40,\ 41,\ 42,\ 44,\ 45,\ 46,\ 47,\ 49,\ 50,\ 54,\ 57,\ 59,\ 60,\ 66,\ 67,\ 71,\ 72,\ 73,\ 78,\ 84,\ 85,\ 86,\ 92,\ 94,\ 95,\ 97,\ 98,\ 103,\ 104,\ 105,\ 107,\ 108,\ 112,\ 116,\ 117,\ 119,\ 120,\ 121,\ 123,\ 124,\ 128,\ 129,\ 130,\ 132,\ 133,\ 134,\ 135,\ 140,\ 141,\ 142,\ 145,\ 146,\ 149,\ 153,\ 154,\ 158,\ 165,\ 167,\ 168,\ 170,\ 171,\ 174,\ 175,\ 179,\ 180,\ 181,\ 184,\ 185,\ 186,\ 188,\ 191,\ 193,\ 198,\ 199,\ 200,\ 204,\ 205,\ 206,\ 214,\ 221,\ 229,\ 239,\ 240,\ 241,\ 242,\ 243,\ 246,\ 247,\ 250,\ 252,\ 253,\ 255,\ 257,\ 259,\ 261,\ 264,\ 267,\ 268,\ 270,\ 271,\ 272,\ 277,\ 279,\ 280,\ 281,\ 282,\ 283,\ 287,\ 288,\ 294,\ 295,\ 296,\ 297,\ 298,\ 300,\ 308,\ 310,\ 313,\ 314,\ 320,\ 324,\ 328,\ 329,\ 331,\ 332,\ 333,\ 335,\ 336,\ 337,\ 341,\ 342,\ 343,\ 344,\ 345,\ 347,\ 348,\ 351,\ 353,\ 359,\ 362,\ 366,\ 367,\ 369,\ 373,\ 377,\ 379,\ 381,\ 383,\ 384,\ 385,\ 387,\ 388,\ 392,\ 393,\ 394,\ 395,\ 398,\ 399,\ 403,\ 404,\ 407,\ 409,\ 410,\ 411,\ 418,\ 421,\ 423,\ 425,\ 429,\ 430,\ 431,\ 341,\ 342,\ 344,\ 347,\ 349,\ 341,\ 342,\ 343,\ 344,\ 345,\ 347,\ 348,\ 341,\ 342,\ 342,\ 342,\ 342,\ 342,\ 342,\ 343,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 342,\ 342,\ 342,\ 342,\ 342,\ 343,\ 344,\ 345,\ 342,\ 342,\ 342,\ 342,\ 343,\ 344,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 347,\ 348,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 345,\ 344,\ 34$

GROUP NUMBER 22 — CHROMATOGRAPHY / ELECTROPHORESIS

 $\begin{array}{c} 6,\,21,\,31,\,43,\,54,\,60,\,70,\,82,\,83,\,84,\,120,\,129,\,142,\,147,\,149,\,168,\,171,\\ 192,\,200,\,205,\,234,\,242,\,261,\,266,\,273,\,275,\,279,\,282,\,293,\,298,\,326,\\ 337,\,342,\,345,\,347,\,367,\,379,\,385,\,388,\,389,\,394,\,405,\,415,\,416,\,417,\\ 420,\,429 \end{array}$

GROUP NUMBER 23 — CLADISTICS

6, 22, 33, 40, 46, 53, 60, 69, 74, 78, 95, 103, 105, 107, 112, 124, 129, 130, 141, 142, 146, 156, 171, 175, 180, 181, 191, 199, 206, 213, 227, 239, 242, 247, 255, 257, 261, 267, 271, 282, 297, 310, 316, 329, 335, 337, 341, 344, 359, 362, 374, 379, 388, 394, 399, 403, 407, 417, 422, 429

GROUP NUMBER 24 — CYTOLOGY / CHROMOSOMES

3, 68, 83, 85, 86, 98, 106, 107, 110, 129, 134, 142, 154, 157, 168, 181, 192, 199, 205, 215, 235, 250, 255, 259, 261, 266, 272, 298, 316, 335, 344, 348, 353, 355, 359, 367, 371, 379, 393, 399, 421, 427

GROUP NUMBER 25 — EMBRYOLOGY

80, 107, 227, 271, 293, 343, 344, 359, 417

GROUP NUMBER 26 - GENETICS / BREEDING

3, 16, 31, 32, 38, 43, 54, 62, 70, 76, 82, 83, 100, 111, 113, 122, 129, 147, 161, 168, 192, 199, 205, 233, 234, 235, 250, 253, 255, 261, 279, 288, 293, 298, 312, 323, 342, 345, 351, 353, 355, 371, 379, 381, 387, 405, 417, 428

GROUP NUMBER 27 — GROSS MORPHOLOGY

 $\begin{array}{c} 1,\ 2,\ 5,\ 6,\ 7,\ 12,\ 16,\ 17,\ 21,\ 23,\ 25,\ 32,\ 33,\ 39,\ 40,\ 42,\ 43,\ 44,\ 46,\ 47,\ 49,\ 50,\ 52,\ 53,\ 54,\ 55,\ 57,\ 59,\ 60,\ 64,\ 66,\ 67,\ 68,\ 69,\ 71,\ 73,\ 74,\ 75,\ 78,\ 80,\ 82,\ 83,\ 84,\ 85,\ 88,\ 92,\ 93,\ 95,\ 97,\ 98,\ 103,\ 104,\ 105,\ 106,\ 107,\ 108,\ 110,\ 112,\ 116,\ 120,\ 121,\ 123,\ 124,\ 125,\ 128,\ 129,\ 130,\ 134,\ 135,\ 140,\ 141,\ 142,\ 143,\ 145,\ 146,\ 149,\ 153,\ 154,\ 155,\ 156,\ 157,\ 158,\ 165,\ 168,\ 170,\ 171,\ 172,\ 175,\ 177,\ 180,\ 186,\ 189,\ 190,\ 197,\ 198,\ 199,\ 200,\ 201,\ 205,\ 206,\ 212,\ 213,\ 214,\ 215,\ 217,\ 220,\ 221,\ 223,\ 227,\ 229,\ 239,\ 241,\ 243,\ 244,\ 246,\ 247,\ 252,\ 256,\ 258,\ 259,\ 261,\ 262,\ 263,\ 264,\ 267,\ 268,\ 269,\ 271,\ 272,\ 273,\ 275,\ 276,\ 277,\ 280,\ 282,\ 288,\ 289,\ 290,\ 294,\ 295,\ 298,\ 299,\ 300,\ 301,\ 303,\ 306,\ 310,\ 311,\ 312,\ 313,\ 314,\ 316,\ 324,\ 326,\ 328,\ 329,\ 331,\ 332,\ 333,\ 334,\ 335,\ 336,\ 339,\ 342,\ 344,\ 347,\ 348,\ 346,\ 328,\ 329,\ 331,\ 332,\ 333,\ 334,\ 335,\ 336,\ 339,\ 342,\ 344,\ 347,\ 348,\ 348,\ 347,\ 348,\ 348,\ 347,\ 348,\$

351, 353, 354, 355, 356, 358, 359, 362, 364, 366, 367, 369, 370, 371, 373, 375, 377, 379, 381, 383, 385, 387, 388, 391, 392, 393, 394, 395, 399, 403, 404, 405, 407, 408, 409, 410, 411, 415, 416, 418, 421, 422, 427, 430, 431

GROUP NUMBER 28 — NOMENCLATURE

 $\begin{array}{c} 5,\ 6,\ 12,\ 21,\ 23,\ 33,\ 40,\ 43,\ 44,\ 46,\ 49,\ 50,\ 57,\ 60,\ 64,\ 66,\ 67,\ 68,\ 69,\ 71,\ 72,\ 75,\ 80,\ 83,\ 84,\ 85,\ 91,\ 93,\ 95,\ 97,\ 98,\ 103,\ 104,\ 107,\ 108,\ 112,\ 120,\ 121,\ 124,\ 128,\ 129,\ 130,\ 132,\ 134,\ 135,\ 141,\ 142,\ 143,\ 146,\ 153,\ 154,\ 155,\ 157,\ 158,\ 165,\ 172,\ 175,\ 180,\ 181,\ 185,\ 189,\ 190,\ 191,\ 197,\ 198,\ 199,\ 200,\ 204,\ 205,\ 206,\ 207,\ 212,\ 214,\ 215,\ 220,\ 231,\ 233,\ 237,\ 239,\ 241,\ 243,\ 244,\ 247,\ 250,\ 252,\ 256,\ 258,\ 259,\ 261,\ 264,\ 265,\ 267,\ 268,\ 269,\ 271,\ 272,\ 273,\ 277,\ 280,\ 282,\ 287,\ 290,\ 295,\ 298,\ 300,\ 301,\ 306,\ 310,\ 311,\ 313,\ 314,\ 316,\ 328,\ 332,\ 333,\ 334,\ 335,\ 336,\ 337,\ 339,\ 341,\ 344,\ 348,\ 351,\ 353,\ 358,\ 359,\ 362,\ 366,\ 367,\ 371,\ 373,\ 375,\ 377,\ 379,\ 381,\ 384,\ 385,\ 388,\ 389,\ 393,\ 395,\ 398,\ 399,\ 403,\ 404,\ 407,\ 408,\ 409,\ 410,\ 411,\ 418,\ 429,\ 340,\ 341,\ 418,\ 429,\ 341,\ 441,\ 441,\ 448,\ 429,\ 441,\ 441,\ 448,\ 429,\ 441,\ 441,\ 448,\ 429,\ 441,\ 441,\ 448,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 449,\ 449,\ 441,\ 441,\ 444,\ 44$

GROUP NUMBER 29 — PALYNOLOGY

68, 75, 85, 96, 272, 294, 298, 316, 348, 364, 366

GROUP NUMBER 30 - PHENETICS

6, 21, 33, 40, 60, 74, 84, 95, 107, 112, 142, 154, 156, 157, 165, 180, 181, 188, 206, 227, 239, 255, 257, 272, 273, 282, 287, 297, 303, 337, 344, 351, 353, 359, 362, 375, 384, 393, 394, 399, 407, 417, 429, 431

GROUP NUMBER 31 — REPRODUCTIVE BIOLOGY

 $\begin{array}{c} 6,\ 8,\ 9,\ 12,\ 16,\ 33,\ 38,\ 40,\ 41,\ 42,\ 43,\ 50,\ 59,\ 60,\ 73,\ 83,\ 86,\ 94,\ 95,\\ 103,\ 106,\ 107,\ 108,\ 113,\ 116,\ 122,\ 123,\ 143,\ 147,\ 154,\ 157,\ 163,\ 171,\\ 179,\ 180,\ 185,\ 188,\ 189,\ 190,\ 198,\ 199,\ 202,\ 215,\ 219,\ 233,\ 234,\ 247,\\ 250,\ 253,\ 255,\ 257,\ 261,\ 264,\ 271,\ 272,\ 273,\ 279,\ 282,\ 286,\ 293,\ 323,\\ 326,\ 335,\ 337,\ 343,\ 344,\ 351,\ 359,\ 372,\ 373,\ 379,\ 381,\ 383,\ 384,\ 387,\\ 388,\ 394,\ 399,\ 405,\ 408,\ 409,\ 410,\ 411,\ 428,\ 430 \end{array}$

GROUP NUMBER 32 - SEROLOGY

198, 217, 242, 266, 417

GROUP NUMBER 33 — OTHER SYSTEMATIC TECHNIQUES

31, 32, 50, 70, 75, 80, 121, 130, 146, 150, 151, 157, 168, 170, 177, 205, 217, 227, 265, 267, 270, 271, 277, 288, 297, 304, 328, 334, 344, 351, 353, 366, 369, 391, 393, 407, 408, 412, 422, 423, 430

5.1.3 ECOLOGICAL INTERESTS:

GROUP NUMBER 34 — TERRESTRIAL POPULATION ECOLOGY

 $\begin{array}{c} 4,\ 9,\ 10,\ 13,\ 16,\ 20,\ 24,\ 25,\ 27,\ 28,\ 29,\ 30,\ 31,\ 33,\ 35,\ 36,\ 37,\ 38,\ 39,\ 40,\ 41,\ 42,\ 43,\ 47,\ 48,\ 50,\ 54,\ 56,\ 59,\ 61,\ 65,\ 67,\ 68,\ 72,\ 79,\ 81,\ 82,\ 83,\ 84,\ 90,\ 94,\ 103,\ 108,\ 111,\ 112,\ 113,\ 115,\ 116,\ 117,\ 118,\ 119,\ 122,\ 123,\ 127,\ 132,\ 133,\ 135,\ 136,\ 138,\ 139,\ 140,\ 142,\ 143,\ 148,\ 153,\ 154,\ 158,\ 159,\ 160,\ 161,\ 162,\ 163,\ 164,\ 166,\ 170,\ 172,\ 173,\ 174,\ 177,\ 178,\ 184,\ 185,\ 188,\ 191,\ 192,\ 194,\ 195,\ 196,\ 197,\ 198,\ 200,\ 202,\ 203,\ 204,\ 206,\ 208,\ 209,\ 215,\ 219,\ 223,\ 224,\ 225,\ 230,\ 231,\ 236,\ 237,\ 245,\ 247,\ 250,\ 251,\ 252,\ 253,\ 255,\ 257,\ 264,\ 270,\ 278,\ 279,\ 281,\ 284,\ 285,\ 286,\ 288,\ 291,\ 295,\ 302,\ 305,\ 306,\ 307,\ 312,\ 315,\ 317,\ 318,\ 319,\ 321,\ 322,\ 324,\ 325,\ 328,\ 330,\ 333,\ 335,\ 336,\ 337,\ 341,\ 342,\ 345,\ 350,\ 351,\ 353,\ 356,\ 357,\ 358,\ 360,\ 361,\ 370,\ 372,\ 373,\ 376,\ 379,\ 387,\ 388,\ 390,\ 392,\ 393,\ 398,\ 401,\ 402,\ 404,\ 407,\ 410,\ 411,\ 412,\ 422,\ 424,\ 426,\ 432,\ 435,\ 435,\ 435,\ 435,\ 435,\ 435,\ 435,\ 435,\ 435,\ 435,\ 435,\ 435,\ 435,\ 436,\ 435,\ 435,\ 435,\ 436,\ 436,\ 435,\ 435,\ 436,\ 436,\ 435,\ 436,\ 436,\ 436,\ 435,\ 436,\ 436,\ 436,\ 436,\ 435,\ 436,\$

GROUP NUMBER 35 — TERRESTRIAL COMMUNITY ECOLOGY

3, 4, 8, 9, 10, 13, 15, 20, 24, 25, 27, 28, 29, 30, 31, 33, 35, 36, 38, 40, 41, 46, 50, 56, 59, 61, 65, 73, 75, 81, 84, 86, 90, 92, 93, 94, 96, 98, 99, 101, 103, 108, 109, 115, 116, 117, 121, 123, 127, 128, 133, 137, 138, 139, 140, 141, 143, 148, 153, 155, 156, 162, 166, 167, 170, 173, 174, 175, 177, 184, 185, 188, 191, 194, 195, 196, 197, 198, 200,

204, 207, 208, 209, 215, 216, 217, 218, 219, 223, 226, 230, 231, 236, 237, 243, 245, 246, 247, 248, 250, 252, 253, 254, 256, 260, 264, 270, 279, 281, 283, 285, 286, 290, 292, 294, 295, 296, 302, 306, 307, 312, 313, 315, 317, 318, 319, 321, 328, 330, 331, 333, 335, 336, 338, 341, 344, 347, 349, 350, 351, 352, 353, 357, 367, 368, 370, 372, 373, 375, 376, 378, 379, 387, 389, 390, 392, 398, 404, 407, 410, 411, 412, 413, 418, 420, 423, 424, 425, 429, 433, 435

GROUP NUMBER 36 — TERRESTRIAL ECOSYSTEM ECOLOGY

 $\begin{array}{c} 2,\ 10,\ 13,\ 18,\ 27,\ 29,\ 35,\ 51,\ 61,\ 62,\ 65,\ 71,\ 75,\ 84,\ 90,\ 101,\ 102,\ 104,\ 108,\ 114,\ 116,\ 123,\ 127,\ 128,\ 139,\ 140,\ 141,\ 143,\ 148,\ 149,\ 164,\ 167,\ 171,\ 173,\ 179,\ 183,\ 184,\ 185,\ 187,\ 188,\ 190,\ 192,\ 196,\ 197,\ 198,\ 203,\ 209,\ 215,\ 216,\ 217,\ 218,\ 219,\ 223,\ 226,\ 232,\ 237,\ 238,\ 243,\ 250,\ 254,\ 260,\ 268,\ 269,\ 270,\ 272,\ 279,\ 281,\ 285,\ 292,\ 294,\ 302,\ 307,\ 308,\ 312,\ 319,\ 320,\ 321,\ 323,\ 334,\ 335,\ 339,\ 340,\ 343,\ 344,\ 347,\ 351,\ 352,\ 353,\ 356,\ 370,\ 373,\ 378,\ 379,\ 387,\ 389,\ 392,\ 395,\ 397,\ 398,\ 401,\ 403,\ 407,\ 409,\ 411,\ 413,\ 414,\ 420,\ 425,\ 435 \end{array}$

GROUP NUMBER 37 - AQUATIC POPULATION ECOLOGY

 $\begin{array}{c} 1,\ 6,\ 7,\ 10,\ 11,\ 16,\ 26,\ 33,\ 34,\ 43,\ 46,\ 49,\ 50,\ 52,\ 53,\ 55,\ 58,\ 60,\ 63,\ 66,\ 71,\ 76,\ 77,\ 81,\ 82,\ 87,\ 88,\ 89,\ 91,\ 107,\ 117,\ 122,\ 123,\ 126,\ 127,\ 132,\ 134,\ 139,\ 147,\ 152,\ 169,\ 176,\ 177,\ 180,\ 182,\ 184,\ 185,\ 188,\ 192,\ 201,\ 202,\ 208,\ 209,\ 215,\ 216,\ 217,\ 222,\ 223,\ 228,\ 229,\ 233,\ 237,\ 240,\ 247,\ 257,\ 263,\ 264,\ 265,\ 271,\ 274,\ 275,\ 276,\ 280,\ 282,\ 293,\ 299,\ 301,\ 302,\ 304,\ 310,\ 311,\ 312,\ 329,\ 333,\ 334,\ 354,\ 357,\ 363,\ 369,\ 372,\ 378,\ 380,\ 381,\ 386,\ 388,\ 392,\ 394,\ 396,\ 399,\ 405,\ 411,\ 414,\ 416,\ 417,\ 419,\ 421,\ 422,\ 428,\ 430 \end{array}$

GROUP NUMBER 38 — AQUATIC COMMUNITY ECOLOGY

 $\begin{array}{c} 3,\ 5,\ 6,\ 7,\ 10,\ 11,\ 15,\ 26,\ 33,\ 34,\ 45,\ 46,\ 49,\ 52,\ 53,\ 55,\ 58,\ 65,\ 66,\ 77,\ 80,\ 81,\ 82,\ 87,\ 88,\ 92,\ 98,\ 107,\ 123,\ 126,\ 127,\ 129,\ 134,\ 139,\ 143,\ 144,\ 147,\ 148,\ 152,\ 155,\ 167,\ 174,\ 176,\ 180,\ 182,\ 184,\ 185,\ 186,\ 188,\ 201,\ 207,\ 209,\ 210,\ 215,\ 216,\ 221,\ 222,\ 223,\ 228,\ 229,\ 233,\ 237,\ 240,\ 241,\ 247,\ 256,\ 262,\ 263,\ 264,\ 265,\ 274,\ 275,\ 276,\ 277,\ 280,\ 296,\ 297,\ 299,\ 300,\ 301,\ 302,\ 311,\ 312,\ 329,\ 331,\ 343,\ 346,\ 352,\ 354,\ 357,\ 362,\ 365,\ 369,\ 378,\ 380,\ 381,\ 386,\ 392,\ 394,\ 396,\ 399,\ 411,\ 413,\ 414,\ 416,\ 419,\ 420,\ 421,\ 430,\ 433 \end{array}$

GROUP NUMBER 39 — AQUATIC ECOSYSTEM ECOLOGY

 $\begin{array}{c} 1,\ 2,\ 7,\ 10,\ 11,\ 26,\ 32,\ 46,\ 49,\ 55,\ 58,\ 66,\ 76,\ 77,\ 87,\ 102,\ 107,\ 123,\\ 126,\ 127,\ 134,\ 139,\ 147,\ 152,\ 167,\ 176,\ 179,\ 180,\ 182,\ 184,\ 186,\ 188,\\ 192,\ 201,\ 209,\ 215,\ 217,\ 222,\ 223,\ 228,\ 229,\ 233,\ 237,\ 238,\ 240,\ 241,\\ 262,\ 265,\ 270,\ 276,\ 277,\ 280,\ 289,\ 297,\ 300,\ 301,\ 302,\ 311,\ 312,\ 320,\\ 327,\ 339,\ 343,\ 346,\ 354,\ 363,\ 365,\ 367,\ 369,\ 378,\ 380,\ 381,\ 386,\ 389,\\ 392,\ 396,\ 403,\ 406,\ 409,\ 411,\ 413,\ 414,\ 416,\ 419,\ 420,\ 430 \end{array}$

GROUP NUMBER 40 — BASIC APPROACH

 $\begin{array}{c} 1,\ 6,\ 9,\ 10,\ 11,\ 13,\ 14,\ 15,\ 16,\ 20,\ 24,\ 28,\ 30,\ 31,\ 33,\ 35,\ 38,\ 39,\ 40,\ 42,\ 43,\ 47,\ 48,\ 50,\ 51,\ 53,\ 54,\ 56,\ 59,\ 60,\ 61,\ 63,\ 65,\ 67,\ 70,\ 75,\ 79,\ 80,\ 81,\ 82,\ 84,\ 86,\ 89,\ 90,\ 92,\ 93,\ 94,\ 96,\ 98,\ 103,\ 104,\ 107,\ 108,\ 112,\ 115,\ 116,\ 117,\ 118,\ 120,\ 121,\ 122,\ 123,\ 126,\ 127,\ 128,\ 129,\ 132,\ 135,\ 136,\ 138,\ 140,\ 142,\ 143,\ 145,\ 146,\ 152,\ 153,\ 154,\ 156,\ 159,\ 160,\ 161,\ 162,\ 163,\ 166,\ 167,\ 170,\ 171,\ 174,\ 175,\ 176,\ 177,\ 178,\ 180,\ 183,\ 184,\ 185,\ 191,\ 192,\ 194,\ 195,\ 197,\ 198,\ 200,\ 201,\ 202,\ 204,\ 206,\ 207,\ 208,\ 210,\ 215,\ 216,\ 219,\ 222,\ 223,\ 224,\ 225,\ 229,\ 230,\ 231,\ 232,\ 237,\ 246,\ 247,\ 248,\ 250,\ 251,\ 252,\ 253,\ 254,\ 256,\ 257,\ 263,\ 264,\ 265,\ 268,\ 269,\ 270,\ 271,\ 272,\ 274,\ 275,\ 277,\ 279,\ 280,\ 281,\ 282,\ 283,\ 285,\ 286,\ 287,\ 290,\ 292,\ 293,\ 294,\ 295,\ 297,\ 301,\ 302,\ 303,\ 305,\ 307,\ 311,\ 313,\ 315,\ 317,\ 318,\ 319,\ 320,\ 321,\ 322,\ 328,\ 329,\ 331,\ 333,\ 334,\ 335,\ 339,\ 342,\ 343,\ 344,\ 345,\ 346,\ 347,\ 351,\ 353,\ 354,\ 356,\ 357,\ 360,\ 362,\ 363,\ 367,\ 368,\ 369,\ 370,\ 376,\ 377,\ 379,\ 388,\ 384,\ 385,\ 386,\ 388,\ 389,\ 390,\ 392,\ 393,\ 394,\ 395,\ 397,\ 398,\ 399,\ 402,\ 403,\ 405,\ 406,\ 407,\ 410,\ 411,\ 412,\ 413,\ 416,\ 417,\ 418,\ 419,\ 421,\ 422,\ 424,\ 428,\ 430,\ 432,\ 433,\ 434,\ 435,\ 434,\ 435,\ 436,\ 437,\ 418,\ 419,\ 421,\ 422,\ 424,\ 428,\ 430,\ 432,\ 433,\ 434,\ 435,\ 436,\ 437,\ 418,\ 419,\ 421,\ 422,\ 424,\ 428,\ 430,\ 432,\ 433,\ 434,\ 435,\ 436,\ 437,\ 435,\ 436,\ 437,\ 434,\ 435,\ 436,\ 437,\ 435,\ 436,\ 437,\ 434,\ 435,\ 436,\ 437,\ 434,\ 435,\ 436,\ 437,\ 434,\ 435,\ 436,\ 437,\ 434,\ 435,\ 434$

GROUP NUMBER 41 — APPLIED APPROACH

2, 3, 5, 13, 14, 19, 26, 29, 36, 38, 42, 45, 46, 47, 48, 49, 51, 52, 55, 56, 58, 59, 61, 62, 66, 71, 75, 76, 77, 87, 88, 90, 94, 101, 111, 114, 116, 117, 119, 122, 126, 127, 134, 135, 136, 139, 140, 143, 144, 148,

 $\begin{array}{c} 149,\ 152,\ 155,\ 162,\ 164,\ 167,\ 169,\ 171,\ 173,\ 176,\ 178,\ 182,\ 184,\ 186,\ 187,\ 188,\ 189,\ 190,\ 195,\ 198,\ 200,\ 201,\ 203,\ 204,\ 208,\ 209,\ 216,\ 217,\ 218,\ 219,\ 221,\ 222,\ 223,\ 225,\ 229,\ 230,\ 232,\ 235,\ 236,\ 237,\ 240,\ 241,\ 245,\ 249,\ 257,\ 262,\ 270,\ 272,\ 275,\ 276,\ 280,\ 281,\ 283,\ 285,\ 286,\ 288,\ 290,\ 291,\ 293,\ 294,\ 295,\ 296,\ 300,\ 302,\ 304,\ 311,\ 312,\ 315,\ 317,\ 319,\ 321,\ 322,\ 324,\ 327,\ 330,\ 335,\ 336,\ 339,\ 341,\ 342,\ 343,\ 344,\ 345,\ 346,\ 347,\ 349,\ 353,\ 354,\ 363,\ 365,\ 369,\ 372,\ 375,\ 378,\ 381,\ 386,\ 387,\ 389,\ 392,\ 396,\ 399,\ 401,\ 402,\ 404,\ 409,\ 410,\ 412,\ 414,\ 417,\ 418,\ 419,\ 420,\ 425,\ 426,\ 433,\ 435 \end{array}$

GROUP NUMBER 42 — NATURAL SYSTEMS

1, 2, 3, 5, 6, 7, 9, 10, 11, 13, 15, 16, 17, 18, 20, 24, 25, 26, 28, 30, 31, 32, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 46, 48, 49, 50, 51, 53, 54, 55, 58, 59, 60, 61, 63, 65, 66, 67, 70, 71, 72, 73, 75, 80, 81, 82, 84, 86, 88, 89, 90, 92, 93, 94, 96, 98, 101, 102, 103, 104, 107, 108, 109, 112, 113, 115, 116, 117, 119, 121, 122, 123, 126, 127, 128, 129, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 148, 152, 153, 154, 156, 160, 161, 162, 163, 164, 166, 167, 169, 170, 170, 171, 172, 173, 174, 175, 176, 177, 178, 180, 182, 183, 184, 185, 187, 188, 190, 191, 192, 194, 196, 197, 198, 200, 201, 202, 203, 204, 206, 207, 208, 209, 210, 211, 215, 216, 217, 218, 221, 223, 224, 226, **229**, 230, 231, 232, 236, 237, 240, 241, 243, 244, 246, 247, 250, 252, 253, 254, 256, 257, 260, 262, 263, 264, 265, 270, 271, 274, 276, 277, 278, 279, 280, 281, 282, 283, 286, 287, 288, 290, 293, 294, 295, 296, 297, 299, 302, 304, 305, 306, 307, 308, 311, 312, 313, 315, 317, 318, 319, 320, 321, 322, 327, 328, 329, 330, 331, 333, 334, 335, 336, 338, 339, 341, 344, 345, 346, 347, 349, 350, 351, 352, 353, 354, 356, 357, 360, 362, 363, 365, 367, 368, 369, 370, 372, 373, 376, 378, 379, 381, 383, 384, 385, 386, 387, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 402, 403, 404, 405, 407, 409, 411, 412, 413, 414, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 428, 430, 431, 432, 433, 435

GROUP NUMBER 43 — DISTURBED SYSTEMS

 $\begin{array}{c} 2,\ 5,\ 9,\ 10,\ 11,\ 13,\ 15,\ 18,\ 19,\ 24,\ 25,\ 27,\ 30,\ 31,\ 36,\ 37,\ 39,\ 40,\ 45,\ 46,\ 49,\ 50,\ 51,\ 52,\ 53,\ 55,\ 56,\ 58,\ 59,\ 61,\ 62,\ 65,\ 66,\ 71,\ 72,\ 73,\ 77,\ 83,\ 84,\ 87,\ 88,\ 90,\ 92,\ 94,\ 96,\ 98,\ 107,\ 109,\ 115,\ 116,\ 118,\ 126,\ 127,\ 133,\ 134,\ 135,\ 136,\ 137,\ 140,\ 141,\ 143,\ 144,\ 145,\ 148,\ 152,\ 155,\ 159,\ 164,\ 166,\ 169,\ 173,\ 174,\ 175,\ 176,\ 178,\ 179,\ 182,\ 184,\ 185,\ 186,\ 191,\ 195,\ 196,\ 197,\ 198,\ 201,\ 202,\ 204,\ 207,\ 209,\ 211,\ 216,\ 218,\ 221,\ 222,\ 223,\ 224,\ 225,\ 229,\ 230,\ 232,\ 236,\ 237,\ 240,\ 241,\ 247,\ 248,\ 249,\ 250,\ 253,\ 254,\ 257,\ 260,\ 262,\ 264,\ 270,\ 278,\ 279,\ 280,\ 282,\ 284,\ 285,\ 286,\ 289,\ 290,\ 291,\ 292,\ 293,\ 295,\ 296,\ 300,\ 302,\ 304,\ 306,\ 308,\ 311,\ 312,\ 313,\ 317,\ 318,\ 319,\ 320,\ 321,\ 327,\ 329,\ 333,\ 334,\ 335,\ 338,\ 341,\ 343,\ 344,\ 345,\ 346,\ 347,\ 349,\ 351,\ 352,\ 353,\ 354,\ 363,\ 365,\ 370,\ 372,\ 373,\ 375,\ 376,\ 379,\ 381,\ 385,\ 386,\ 387,\ 389,\ 392,\ 393,\ 394,\ 395,\ 396,\ 397,\ 398,\ 401,\ 402,\ 411,\ 414,\ 416,\ 420,\ 424,\ 425,\ 426,\ 431,\ 432,\ 433,\ 433,\ 434,\ 435,\ 436,\ 441,\ 442,\ 441,\ 444,\ 446,\ 420,\ 424,\ 425,\ 426,\ 431,\ 432,\ 433,\ 433,\ 434,\ 435,\ 436,\ 401,\ 402,\ 411,\ 414,\ 416,\ 420,\ 424,\ 425,\ 426,\ 431,\ 432,\ 433,\ 433,\ 434,\ 435,\ 436,\ 401,\ 402,\ 411,\ 414,\ 416,\ 420,\ 424,\ 425,\ 426,\ 431,\ 432,\ 433,\ 434,\ 435,\ 436,\ 447,\ 448,\ 446,\ 445,\ 446,\ 445,\ 445,\ 446,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 444,\ 445,\ 446,\ 441,\ 441,\ 446,\ 4420,\ 4424,\ 4425,\ 4426,\ 441,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 443,\ 444,\ 445,\ 446,\ 441,\ 445,\ 445,\ 44266$

GROUP NUMBER 44 — ARTIFICIAL SYSTEMS

10, 18, 19, 26, 38, 39, 46, 50, 55, 56, 63, 66, 70, 76, 79, 88, 111, 113, 116, 122, 125, 126, 134, 143, 144, 162, 169, 176, 178, 189, 190, 196, 201, 202, 216, 219, 222, 223, 236, 240, 243, 245, 251, 269, 280, 286, 288, 296, 300, 302, 311, 320, 323, 327, 334, 345, 352, 357, 361, 363, 369, 372, 373, 386, 387, 396, 405, 406, 417, 420, 421, 430, 435

GROUP NUMBER 45 — MANAGED SYSTEMS

 $\begin{array}{c} 2,\ 10,\ 15,\ 18,\ 26,\ 32,\ 39,\ 42,\ 46,\ 50,\ 51,\ 55,\ 56,\ 58,\ 59,\ 61,\ 66,\ 71,\ 72,\ 76,\ 77,\ 87,\ 88,\ 94,\ 109,\ 113,\ 114,\ 118,\ 121,\ 125,\ 126,\ 127,\ 133,\ 134,\ 135,\ 136,\ 139,\ 140,\ 143,\ 148,\ 149,\ 152,\ 153,\ 159,\ 161,\ 164,\ 169,\ 171,\ 176,\ 178,\ 182,\ 184,\ 187,\ 188,\ 190,\ 195,\ 196,\ 197,\ 198,\ 200,\ 201,\ 203,\ 208,\ 209,\ 216,\ 217,\ 219,\ 223,\ 228,\ 230,\ 232,\ 236,\ 243,\ 245,\ 250,\ 252,\ 260,\ 275,\ 276,\ 279,\ 281,\ 284,\ 288,\ 289,\ 293,\ 296,\ 299,\ 301,\ 304,\ 307,\ 311,\ 315,\ 317,\ 319,\ 320,\ 322,\ 323,\ 324,\ 327,\ 334,\ 335,\ 336,\ 338,\ 341,\ 345,\ 346,\ 349,\ 350,\ 352,\ 362,\ 362,\ 363,\ 372,\ 373,\ 378,\ 379,\ 386,\ 387,\ 392,\ 396,\ 401,\ 404,\ 409,\ 410,\ 418,\ 419,\ 420,\ 425,\ 426,\ 431,\ 435 \end{array}$

GROUP NUMBER 46 — BEHAVIORAL ECOLOGY

4, 9, 11, 16, 25, 28, 31, 33, 35, 37, 38, 40, 42, 48, 50, 55, 56, 58, 59, 67, 71, 86, 103, 104, 107, 111, 116, 118, 121, 125, 129, 136, 145, 146, 147, 149, 153, 154, 159, 163, 166, 171, 175, 176, 177, 178, 189, 195, 198, 200, 202, 203, 206, 208, 210, 211, 217, 219, 225, 229, 230, 231,

233, 245, 247, 250, 251, 252, 264, 267, 274, 278, 282, 285, 288, 293, 295, 305, 307, 310, 318, 320, 323, 335, 338, 340, 342, 343, 345, 351, 357, 360, 361, 370, 372, 376, 382, 383, 385, 386, 390, 392, 394, 397, 399, 400, 402, 403, 410, 411, 412, 419, 421, 422, 424, 428, 429, 434

GROUP NUMBER 47 — COMMUNITY CLASSIFICATION

 $\begin{array}{c} 7,\ 8,\ 13,\ 15,\ 36,\ 45,\ 53,\ 56,\ 58,\ 61,\ 65,\ 66,\ 84,\ 92,\ 93,\ 98,\ 101,\ 102,\ 107,\ 108,\ 121,\ 123,\ 127,\ 128,\ 129,\ 133,\ 134,\ 138,\ 140,\ 141,\ 148,\ 152,\ 153,\ 167,\ 170,\ 170,\ 174,\ 180,\ 184,\ 186,\ 188,\ 197,\ 204,\ 207,\ 209,\ 218,\ 221,\ 237,\ 241,\ 246,\ 248,\ 260,\ 268,\ 277,\ 279,\ 283,\ 285,\ 286,\ 290,\ 292,\ 295,\ 300,\ 301,\ 306,\ 312,\ 313,\ 315,\ 317,\ 331,\ 336,\ 344,\ 346,\ 350,\ 352,\ 353,\ 362,\ 367,\ 369,\ 377,\ 379,\ 380,\ 381,\ 392,\ 394,\ 407,\ 409,\ 411,\ 413,\ 418,\ 420,\ 430 \end{array}$

GROUP NUMBER 48 — DEMOGRAPHY / LIFE HISTORY

 $\begin{array}{c} 4,\ 6,\ 8,\ 9,\ 13,\ 14,\ 16,\ 20,\ 25,\ 27,\ 28,\ 30,\ 33,\ 35,\ 38,\ 39,\ 40,\ 41,\ 43,\ 47,\ 50,\ 54,\ 56,\ 60,\ 61,\ 65,\ 66,\ 67,\ 73,\ 79,\ 84,\ 86,\ 88,\ 94,\ 103,\ 107,\ 108,\ 111,\ 112,\ 116,\ 117,\ 118,\ 121,\ 122,\ 123,\ 125,\ 133,\ 135,\ 136,\ 138,\ 139,\ 142,\ 156,\ 159,\ 160,\ 162,\ 163,\ 164,\ 166,\ 172,\ 174,\ 177,\ 178,\ 179,\ 180,\ 185,\ 190,\ 191,\ 194,\ 195,\ 198,\ 203,\ 208,\ 209,\ 217,\ 219,\ 224,\ 229,\ 230,\ 231,\ 233,\ 234,\ 241,\ 245,\ 247,\ 251,\ 252,\ 253,\ 255,\ 257,\ 261,\ 263,\ 265,\ 274,\ 278,\ 282,\ 283,\ 284,\ 285,\ 286,\ 287,\ 295,\ 301,\ 302,\ 305,\ 310,\ 318,\ 320,\ 321,\ 322,\ 323,\ 329,\ 330,\ 331,\ 334,\ 335,\ 343,\ 345,\ 346,\ 351,\ 357,\ 361,\ 369,\ 378,\ 381,\ 384,\ 385,\ 390,\ 392,\ 393,\ 394,\ 398,\ 399,\ 401,\ 402,\ 403,\ 404,\ 405,\ 410,\ 411,\ 419,\ 421,\ 424,\ 426,\ 429,\ \end{array}$

GROUP NUMBER 49 — ENERGY BUDGETS

2, 7, 10, 26, 32, 51, 65, 73, 122, 126, 160, 204, 237, 270, 315, 319, 321, 349, 357, 362, 378, 379, 396, 401, 419, 433

GROUP NUMBER 50 - ENVIRONMENTAL ASSESSMENT

 $\begin{array}{c} 1,\ 2,\ 5,\ 13,\ 15,\ 18,\ 19,\ 29,\ 32,\ 34,\ 36,\ 42,\ 45,\ 46,\ 47,\ 50,\ 53,\ 58,\ 59,\ 61,\ 62,\ 66,\ 72,\ 77,\ 84,\ 87,\ 88,\ 89,\ 90,\ 94,\ 96,\ 101,\ 107,\ 108,\ 123,\ 127,\ 129,\ 133,\ 134,\ 140,\ 142,\ 143,\ 147,\ 148,\ 152,\ 153,\ 161,\ 167,\ 170,\ 173,\ 174,\ 178,\ 179,\ 182,\ 184,\ 186,\ 188,\ 189,\ 190,\ 196,\ 197,\ 198,\ 201,\ 209,\ 210,\ 216,\ 217,\ 218,\ 219,\ 221,\ 222,\ 226,\ 229,\ 230,\ 235,\ 236,\ 237,\ 240,\ 241,\ 245,\ 246,\ 249,\ 257,\ 260,\ 262,\ 263,\ 264,\ 265,\ 268,\ 270,\ 274,\ 276,\ 279,\ 280,\ 283,\ 285,\ 286,\ 290,\ 292,\ 295,\ 296,\ 299,\ 300,\ 302,\ 304,\ 308,\ 311,\ 312,\ 313,\ 315,\ 316,\ 318,\ 319,\ 320,\ 321,\ 325,\ 327,\ 328,\ 331,\ 333,\ 334,\ 335,\ 336,\ 338,\ 339,\ 341,\ 343,\ 346,\ 347,\ 349,\ 353,\ 354,\ 363,\ 365,\ 369,\ 372,\ 376,\ 379,\ 380,\ 381,\ 386,\ 392,\ 395,\ 396,\ 402,\ 406,\ 409,\ 411,\ 412,\ 413,\ 414,\ 416,\ 419,\ 420,\ 426,\ 430,\ 433,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 443,\ 444,\ 446,\ 449,\ 420,\ 426,\ 430,\ 433,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 436,\ 443,\ 444,\ 446,\ 449,\ 440,\ 4420,\ 426,\ 430,\ 433,\ 436,\ 43$

GROUP NUMBER 51 — EVOLUTION

 $\begin{array}{c} 9,\ 16,\ 28,\ 31,\ 33,\ 40,\ 43,\ 50,\ 57,\ 65,\ 67,\ 68,\ 70,\ 74,\ 75,\ 79,\ 81,\ 82,\ 86,\ 103,\ 104,\ 106,\ 107,\ 108,\ 113,\ 115,\ 116,\ 120,\ 125,\ 128,\ 129,\ 130,\ 133,\ 142,\ 145,\ 146,\ 160,\ 163,\ 170,\ 171,\ 175,\ 177,\ 178,\ 180,\ 185,\ 192,\ 202,\ 206,\ 214,\ 230,\ 231,\ 242,\ 247,\ 250,\ 251,\ 253,\ 257,\ 261,\ 264,\ 266,\ 267,\ 270,\ 271,\ 277,\ 282,\ 285,\ 286,\ 287,\ 288,\ 293,\ 294,\ 295,\ 297,\ 302,\ 303,\ 307,\ 309,\ 316,\ 318,\ 328,\ 329,\ 330,\ 331,\ 337,\ 342,\ 344,\ 351,\ 353,\ 357,\ 358,\ 360,\ 361,\ 362,\ 369,\ 379,\ 381,\ 382,\ 383,\ 384,\ 385,\ 390,\ 394,\ 397,\ 398,\ 399,\ 403,\ 405,\ 407,\ 412,\ 417,\ 418,\ 421,\ 422,\ 424,\ 428,\ 430,\ 432,\ 434,\ 4$

GROUP NUMBER 52 — FIELD CENSUS

 $\begin{array}{c} 4,\ 5,\ 8,\ 9,\ 10,\ 13,\ 15,\ 16,\ 17,\ 25,\ 29,\ 35,\ 36,\ 37,\ 39,\ 42,\ 43,\ 48,\ 49,\ 50,\ 53,\ 56,\ 61,\ 63,\ 65,\ 66,\ 71,\ 72,\ 82,\ 84,\ 86,\ 87,\ 88,\ 93,\ 94,\ 95,\ 96,\ 107,\ 108,\ 116,\ 117,\ 118,\ 123,\ 125,\ 127,\ 132,\ 133,\ 134,\ 135,\ 136,\ 137,\ 138,\ 139,\ 140,\ 142,\ 146,\ 147,\ 148,\ 149,\ 159,\ 164,\ 166,\ 169,\ 172,\ 176,\ 178,\ 180,\ 182,\ 185,\ 188,\ 195,\ 196,\ 197,\ 198,\ 200,\ 201,\ 209,\ 211,\ 218,\ 224,\ 228,\ 230,\ 233,\ 236,\ 237,\ 238,\ 243,\ 244,\ 245,\ 248,\ 250,\ 252,\ 257,\ 261,\ 262,\ 264,\ 268,\ 271,\ 272,\ 274,\ 276,\ 278,\ 279,\ 283,\ 285,\ 292,\ 295,\ 302,\ 305,\ 308,\ 310,\ 312,\ 313,\ 315,\ 320,\ 325,\ 331,\ 333,\ 335,\ 336,\ 338,\ 340,\ 341,\ 344,\ 345,\ 346,\ 351,\ 353,\ 357,\ 369,\ 372,\ 373,\ 376,\ 377,\ 381,\ 386,\ 387,\ 390,\ 392,\ 394,\ 396,\ 398,\ 399,\ 401,\ 402,\ 409,\ 410,\ 412,\ 426,\ 431,\ 341,\ 442,\ 426,\ 431,\ 442,$

GROUP NUMBER 53 — HUMAN ECOLOGY

 $\frac{4,\,74,\,122,\,128,\,193,\,203,\,217,\,288,\,292,\,295,\,309,\,312,\,372,\,406,\,412,\,426,\,433}$

GROUP NUMBER 54 — LANDSCAPE ECOLOGY

2, 13, 14, 15, 29, 32, 59, 61, 71, 72, 75, 94, 102, 109, 128, 137, 140, 148, 171, 173, 184, 187, 193, 197, 198, 208, 209, 216, 218, 254, 281, 295, 312, 315, 317, 318, 320, 321, 327, 335, 370, 376, 387, 401, 407, 410

GROUP NUMBER 55 - MODELS

 $\begin{array}{c} 19,\ 26,\ 27,\ 33,\ 46,\ 48,\ 51,\ 58,\ 61,\ 62,\ 77,\ 79,\ 109,\ 113,\ 122,\ 136,\ 139,\\ 142,\ 160,\ 178,\ 219,\ 229,\ 237,\ 245,\ 251,\ 270,\ 284,\ 285,\ 304,\ 307,\ 312,\\ 319,\ 324,\ 328,\ 341,\ 345,\ 354,\ 357,\ 361,\ 362,\ 363,\ 378,\ 380,\ 401,\ 419,\\ 425,\ 430 \end{array}$

GROUP NUMBER 56 — NUTRIENTS

7, 13, 18, 27, 30, 51, 65, 77, 88, 94, 109, 122, 127, 146, 173, 204, 222, 240, 254, 260, 263, 270, 276, 285, 286, 288, 302, 312, 319, 321, 334, 354, 363, 365, 378, 396, 401, 425, 430, 434

GROUP NUMBER 57 — PHYSIOLOGICAL ECOLOGY

2, 10, 16, 18, 24, 27, 30, 33, 38, 61, 65, 70, 73, 90, 113, 143, 145, 146, 147, 160, 162, 173, 185, 207, 211, 216, 217, 219, 224, 225, 245, 253, 270, 271, 274, 285, 286, 288, 293, 302, 306, 311, 315, 349, 356, 360, 363, 365, 379, 383, 392, 399, 401, 405, 411, 412, 416, 417, 419, 421, 423, 430, 432, 433, 434

GROUP NUMBER 58 - PLANT / ANIMAL INTERACTIONS

 $\begin{array}{c} 3,\ 6,\ 7,\ 8,\ 10,\ 20,\ 24,\ 28,\ 30,\ 31,\ 35,\ 38,\ 40,\ 41,\ 42,\ 55,\ 56,\ 65,\ 67,\ 75,\ 76,\ 81,\ 86,\ 94,\ 101,\ 107,\ 108,\ 113,\ 115,\ 121,\ 122,\ 125,\ 128,\ 133,\ 135,\ 138,\ 139,\ 140,\ 142,\ 143,\ 144,\ 145,\ 146,\ 149,\ 153,\ 162,\ 171,\ 174,\ 176,\ 177,\ 178,\ 179,\ 183,\ 185,\ 187,\ 195,\ 198,\ 200,\ 203,\ 206,\ 208,\ 209,\ 219,\ 224,\ 229,\ 230,\ 236,\ 237,\ 240,\ 245,\ 247,\ 248,\ 250,\ 252,\ 253,\ 260,\ 272,\ 276,\ 278,\ 279,\ 280,\ 281,\ 283,\ 285,\ 286,\ 288,\ 302,\ 307,\ 314,\ 320,\ 323,\ 324,\ 327,\ 328,\ 330,\ 331,\ 335,\ 337,\ 338,\ 344,\ 349,\ 351,\ 353,\ 354,\ 360,\ 362,\ 368,\ 372,\ 378,\ 383,\ 385,\ 386,\ 389,\ 390,\ 392,\ 393,\ 397,\ 401,\ 404,\ 410,\ 411,\ 413,\ 414,\ 418,\ 419,\ 421,\ 424,\ 425,\ 426,\ 428,\ 429,\ 430,\ 432 \end{array}$

GROUP NUMBER 59 — PLANT / PLANT INTERACTIONS

 $\begin{array}{c} 3,\ 18,\ 20,\ 27,\ 30,\ 61,\ 68,\ 75,\ 94,\ 96,\ 101,\ 108,\ 109,\ 113,\ 122,\ 125,\ 140,\ 149,\ 160,\ 162,\ 173,\ 174,\ 185,\ 188,\ 190,\ 198,\ 204,\ 207,\ 209,\ 216,\ 237,\ 248,\ 253,\ 260,\ 269,\ 270,\ 276,\ 279,\ 281,\ 285,\ 286,\ 302,\ 334,\ 335,\ 337,\ 344,\ 350,\ 352,\ 356,\ 378,\ 389,\ 390,\ 413,\ 425,\ 430,\ 432,\ 435 \end{array}$

GROUP NUMBER 60 — PLANT / SOIL INTERACTIONS

8, 13, 18, 30, 51, 61, 62, 71, 72, 75, 92, 94, 101, 108, 109, 125, 140, 142, 173, 174, 185, 188, 198, 204, 209, 219, 226, 248, 254, 260, 269, 270, 279, 281, 285, 302, 306, 315, 317, 335, 337, 344, 352, 379, 387, 389, 392, 413, 425, 432, 434, 435

GROUP NUMBER 61 — RECLAMATION

2, 5, 8, 13, 18, 32, 61, 66, 71, 72, 90, 94, 96, 123, 127, 139, 147, 152, 169, 173, 174, 176, 182, 198, 216, 218, 243, 253, 254, 260, 279, 281, 285, 292, 296, 306, 315, 319, 335, 341, 375, 376, 383, 392, 414, 420, 425

GROUP NUMBER 62 — RESOURCE MANAGEMENT

 $\begin{array}{c} 2,\ 10,\ 11,\ 13,\ 26,\ 27,\ 29,\ 41,\ 42,\ 46,\ 47,\ 52,\ 56,\ 58,\ 59,\ 61,\ 66,\ 71,\ 72,\ 77,\ 88,\ 94,\ 101,\ 102,\ 108,\ 109,\ 114,\ 119,\ 123,\ 127,\ 136,\ 139,\ 140,\ 147,\ 148,\ 152,\ 164,\ 169,\ 173,\ 176,\ 184,\ 187,\ 195,\ 198,\ 201,\ 203,\ 209,\ 218,\ 219,\ 228,\ 229,\ 230,\ 233,\ 236,\ 238,\ 243,\ 250,\ 260,\ 263,\ 278,\ 279,\ 285,\ 289,\ 295,\ 296,\ 312,\ 315,\ 319,\ 320,\ 322,\ 325,\ 327,\ 333,\ 335,\ 336,\ 338,\ 341,\ 349,\ 354,\ 358,\ 362,\ 363,\ 372,\ 378,\ 381,\ 386,\ 389,\ 396,\ 401,\ 402,\ 406,\ 409,\ 410,\ 419,\ 420,\ 425,\ 426,\ 431,\ 435 \end{array}$

GROUP NUMBER 63 — SUCCESSION

 $\begin{array}{c} 3,\ 6,\ 8,\ 13,\ 15,\ 18,\ 27,\ 30,\ 35,\ 42,\ 50,\ 61,\ 71,\ 72,\ 84,\ 90,\ 92,\ 94,\ 96,\ 107,\ 108,\ 109,\ 115,\ 117,\ 123,\ 126,\ 133,\ 134,\ 148,\ 162,\ 166,\ 173,\ 174,\ 185,\ 194,\ 198,\ 203,\ 204,\ 207,\ 209,\ 210,\ 215,\ 237,\ 240,\ 243,\ 248,\ 253,\ 254,\ 260,\ 270,\ 275,\ 276,\ 279,\ 280,\ 281,\ 285,\ 286,\ 290,\ 294,\ 295,\ 302,\ 306,\ 308,\ 312,\ 315,\ 317,\ 319,\ 321,\ 327,\ 328,\ 331,\ 335,\ 336,\ 344,\ 346,\ 351,\ 353,\ 354,\ 372,\ 373,\ 381,\ 387,\ 388,\ 392,\ 395,\ 402,\ 410,\ 413,\ 418,\ 420,\ 430,\ 431,\ 432,\ 435 \end{array}$

GROUP NUMBER 64 — TOXICOLOGY

 $\begin{matrix} 2,\ 10,\ 13,\ 19,\ 31,\ 34,\ 49,\ 147,\ 152,\ 162,\ 186,\ 189,\ 217,\ 219,\ 224,\ 229,\ 235,\ 262,\ 270,\ 279,\ 280,\ 291,\ 300,\ 311,\ 344,\ 346,\ 354,\ 365,\ 373,\ 380,\ 392,\ 399,\ 426 \end{matrix}$

GROUP NUMBER 65 — WEEDS

13, 18, 27, 30, 50, 61, 62, 113, 125, 142, 148, 149, 169, 208, 216, 233

GROUP NUMBER 66 — OTHER ECOLOGICAL TOPICS

13, 24, 26, 47, 59, 63, 92, 108, 109, 113, 125, 126, 128, 135, 137, 140, 145, 146, 176, 193, 195, 211, 217, 231, 232, 233, 279, 297, 301, 303, 309, 328, 343, 353, 356, 361, 363, 369, 382, 386, 392, 412, 417, 422

5.2 Free-format Response Index

5.2.1 Geographic Areas:

Adams County 225, 299, 333 Afghanistan 204 Africa 83, 239, 313, 388, 425 Alabama 341, 392, 420 Alaska 24, 266, 306, 349 Alberta 61, 230 Amazon River 26 Antarctica 107 Appalachians 13, 43, 84, 141 Arctic 304 Argentina 145, 146, 250, 344 Arizona 21, 146, 158, 166, 237, 379, 418 Arkansas 2, 86, 153 Asia 83, 104, 168, 239, 277, 388, 394, 398, 425 Atlantic Ocean 430 Australasia 78, 141 Australia 28, 168, 267, 277, 285, 351, 379, 388, 425 Austria 344 Azores Islands 107 Bangladesh 348 Belize 129, 174, 363 Bolivia 348 Brazil 26, 40, 103, 120, 200, 201, 298, 302, 344, 348, 363 Bureau County 258 Calhoun County 21 California 16, 29, 54, 68, 341, 344, 371, 379 Canada 13, 22, 37, 61, 95, 199, 230, 266, 314, 338 Caribbean 180, 430 Carroll County 35, 40, 219 Central America 17, 33, 57, 73, 95, 106, 108, 129, 130, 165, 206, 295, 353, 366, 381, 395, 407, 425 central states 33 Champaign County 14, 24, 27, 31, 48, 49, 61, 65, 113, 118, 149, 156, 159, 184, 195, 208, 211, 216, 224, 225, 233, 253, 278, 286, 304, 334, 357, 360, 376, 378, 397, 405, 423, 424, 432 Chicago 189, 373, 420 Chile 252, 287 China 200, 235, 294, 398 Christian County 286 Clark County 88, 149, 334, 415 Clinton County 169, 187 Coles County 88, 149, 166, 262, 276, 415, 435 Colorado 28, 54, 69, 81, 86, 146, 152, 287, 341, 379, 410, 411, 421 Columbia 83, 120, 250, 298, 344, 348 Connecticut 29, 216 continental shelf 430 Cook County 13, 25, 32, 33, 42, 53, 73, 114, 115, 137, 207, 217, 223, 244, 288, 300, 302, 313, 356, 389, 395 Costa Rica 20, 23, 57, 73, 108, 344, 382, 384 Crawford County 149 Cumberland County 88 De Kalb County 149, 248, 252, 301, 398 Delaware 216, 347 De Witt County 233 Dominican Republic 288 Douglas County 424 Du Page County 13, 14, 32, 42, 63, 73, 114, 123, 209, 215, 230, 237, 244, 288, 295, 368, 370 eastern states 33, 156, 259, 264, 294, 324, 342 Ecuador 86, 108, 298, 344, 348, 362, 366, 384 Effingham County 40 Egypt 309, 363 England 28 estuaries 430

Europe 16, 277, 294

Fayette County 40

Ford County 233, 286

Florida 2, 32, 103, 141, 186, 334, 335, 344, 420

France 344 Franklin County 225 Fulton County 325 Galapagos Islands 283 Georgia 2, 141, 288, 334, 341, 418 Germany 342 Ghana 348 Great Britain 113 Great Lakes 414 Great Lakes states 13, 59 Great Plains 72, 425 Grundy County 22, 58, 195, 238, 252, 306 Gulf of Mexico 430 Haiti 201, 363 Hardin County 18 Hawaii 13, 61, 379 Henderson County 3, 40 Holarctic 407 Honduras 129 Illinois, central 29, 30, 37, 51, 68, 107, 127, 130, 133, 142, 183, 243, 319, 328, 331, 360, 391, 396 Illinois, east central 132, 166, 278, 305, 326, 346, 416 Illinois, northeastern 73, 148, 178, 197, 281, 283, 300, 338, 352, 373, Illinois, northern 5, 6, 47, 129, 133, 135, 192, 207, 213, 241, 279, 353, 398, 421 Illinois, northwestern 219, 252, 406 Illinois, southern 11, 15, 43, 51, 60, 80, 96, 109, 140, 167, 190, 200, 201, 202, 240, 249, 317, 319, 322, 334, 345, 347, 358, 383, 399, 409, 410, 412 Illinois, southwestern 265 Illinois, west central 7, 117, 150, 151, 153, 174, 176, 279, 280, 387, 402 Illinois River 7, 50, 66, 229, 257, 312, 319, 354 India 74, 83, 204, 257, 327 Indiana 17, 18, 32, 53, 93, 133, 153, 167, 182, 184, 189, 190, 195, 207, 246, 313, 326, 329, 331, 334, 348, 365, 387, 404, 420, 421 Indonesia 348 Intermountain states 13, 142 Iowa 35, 119, 132, 190, 279, 312, 320, 331, 335, 339, 353 Iran 309 Iraq 309 Iroquois County 48, 233 Israel 363 Italy 74, 342 Jackson County 18, 36, 52, 138, 139, 225, 247, 292, 345, 371, 412 Japan 200, 344, 398 Jasper County 56, 410 Jersey County 21, 243 Jo Daviess County 35 Kane County 73, 125, 238, 301, 392 Kankakee County 40, 48, 58, 111, 238 Kankakee River 346 Kansas 22, 29, 341, 410, 411 Kaskaskia River 274, 304 Kendall County 58, 238 Kentucky 60, 71, 84, 109, 182, 261, 302, 341, 371, 411 Knox County 235, 335 Korea 200, 398 Lake County 13, 32, 73, 114, 263, 302 Lake Michigan 100 Lake Shelbyville 318 La Salle County 398 Latin America 51, 259, 296, 337 Lee County 289 Libya 313 Livingston County 233, 395 Logan County 149, 217

Louisiana 340, 341

Mackinaw River 50, 89, 226 Macon County 49, 216 Macoupin County 90, 392

Madison County 21, 52, 149, 204, 274, 343, 381

Maine 411 Malaysia 257, 394

Marion County 40, 55, 56, 126, 410

Maryland 18, 216, 347

Mason County 40, 217, 219, 243, 258

Massachusetts 27, 29, 344 McDonough County 235, 275, 383

McHenry County 13, 73, 114, 125 McLean County 63, 86, 136, 231, 233, 390

Mexico 13, 21, 33, 40, 43, 60, 69, 83, 91, 154, 158, 165, 199, 257, 272, 273, 288, 290, 295, 337, 344, 348, 353, 369, 377, 379, 412 Michigan 17, 32, 95, 177, 190, 207, 211, 288, 302, 331, 338, 360, 365, 376, 379, 397, 404, 410, 419, 420

Midwest 8, 66, 88, 94, 121, 134, 174, 186, 188, 191, 193, 194, 218, 364, 381, 425

Minnesota 32, 92, 95, 190, 338, 340, 353, 384, 410, 424

Mississippi 299

Mississippi River 7, 60, 66, 87, 89, 126, 143, 221, 229, 257, 312, 319, 339, 354, 392

Missouri 2, 5, 9, 21, 60, 87, 96, 127, 128, 153, 182, 190, 262, 279, 312, 320, 328, 329, 348, 350, 371, 387, 410, 411, 420

Missouri River 66

Monroe County 9, 21, 149, 169, 187, 262, 381

Montana 340

national forests 256, 319 national parks 84, 382 Nearctic 429

Nebraska 29, 384, 410

Neotropics 20, 78, 80, 83, 85, 105, 165, 175, 298, 412, 429

New England 59, 130 New Jersey 216, 230

New Mexico 21, 146, 287, 288, 328, 344, 379, 385

New World 67

New York 65, 130, 341 New Zealand 24, 97, 425

North America 72, 106, 135, 142, 194, 206, 271, 277, 282, 293, 388, 422 North Carolina 2, 46, 60, 163, 192, 222, 341, 379

North Dakota 340, 410 northeast states 145 northern states 266 Northwest Territories 22, 61

Norway 24, 342 Ogle County 248

Ohio 122, 153, 319, 329, 392 Oklahoma 286, 315, 341, 410

Ontario 37, 95 Oregon 204, 379 Orinoco River 274 Osage River 312 Ozarks 43, 60, 308, 328 Pacific Coast states 13, 353

Pacific Coast 82 Pacific Islands 168, 351 Pakistan 204, 328

Paleotropics 106, 108 Panama 11, 20, 108, 115, 160, 177, 184, 250, 257, 267, 302

Papua New Guinea 115 Paraguay 40, 250, 348 Patagonia 141

Pennsylvania 152, 153, 298, 329 Peoria County 161, 235, 240, 258, 359

Perry County 18, 52

Peru 25, 26, 38, 85, 103, 108, 120, 298, 318, 344, 348, 362, 366 Philippines 363

Piatt County 49, 136, 216, 233, 253, 278, 360, 397, 424 Pike County 21, 299, 333, 339

Poland 9

Pope County 14, 18, 149, 225, 318, 319

Puerto Rico 51, 59, 91 Putnam County 258

Randolph County 18, 21, 169, 182, 187, 371

Rock Island County 92, 212 Rocky Mountains 72, 121 Saline County 18, 138, 182 Sangamon County 391 Sangamon River 319 Sauk Hills 15 Shawnee Hills 15 Shelby County 243

Sonoran Desert 166, 426

South America 17, 23, 25, 33, 91, 95, 97, 108, 130, 267, 295, 298, 329, 362, 381, 388, 407, 425

South Carolina 46 South Dakota 288, 410

southeast states 13, 154, 245, 316, 395, 399, 416

southern states 165

southwest states 13, 33, 145, 154, 290, 337, 349, 353, 369, 426

Spain 344

Sri Lanka 342, 348

St. Clair County 21, 52, 169, 182, 187, 204, 208, 225, 262, 381

St. Louis, Missouri 381

subalpine 230 subantarctic 107 Switzerland 344 Taiwan 17, 348 Tamaulipas, Mexico 69

Tasmania 97

Tazewell County 161, 217

Tennessee 163, 261

Texas 2, 21, 22, 87, 146, 337, 341, 379, 410

Thailand 200, 348 Trinidad & Tobago 264 tropics 51, 382

U.S.S.R., 266, 294, 344

Union County 18, 116, 247, 292, 302, 318, 371, 412

Uruguay 40, 250, 344 Utah 146, 411

Venezuela 40, 83, 103, 120, 267, 274, 298, 310

Veracruz, Mexico 268, 272, 377

Vermilion County 49, 122, 184, 210, 233, 243, 253, 278, 304, 334, 376, 405, 424

Virginia 2, 81, 163, 347 Wabash County 18 Wabash River 319, 339 Warren County 3, 225 Washington 192, 341, 411 Washington County 169, 187

West Indies 40, 130, 264, 295, 395, 407

West Virginia 81, 98

western states 68, 142, 273, 296, 309, 349, 412

Whiteside County 35, 40

Will County 22, 40, 53, 58, 73, 237, 238, 346, 431 Williamson County 18, 139, 182, 292, 345, 371

Wisconsin 5, 15, 18, 29, 32, 47, 95, 177, 190, 192, 263, 268, 305, 320, 331, 348, 353, 365, 410, 420, 424

Woodford County 161, 385

worldwide 44, 46, 64, 112, 155, 157, 171, 180, 191, 220, 242, 271,

332, 351, 367, 403, 407, 408 Wyoming 53, 90, 392

Zaire 38

Bovidae 266

5.2.2 Taxonomic Expertise:

Braconidae 314 Abies 377 Abutilon 149 Branchiobdellida 411 Acacia 337 Branchiopoda 396 Acantharcus 60 Brassicaceae 142 Acari 112, 191 Brugmansia 298 Acarina 232 Brunfelsia 298 Accipitridae 47 Bryophyta 15, 17, 123, 141, 246, 280, 306, 308, 326, 356, 431 Bufo 50 Acer 65 Aceraceae 154, 190, 387 Bufonidae 50, 242 Acrotretida 107 Byturidae 124 Calandoida 396 Actinidiaceae 348 Aedes 49, 223 Calliphoridae 25 Aeolosomatida 411 calypoblastic 408 Agaricales 344, 371 Camaridae 282 Agkistrodon 35 Campanulariidae 408 Campostoma 60 Agrimonia 199 algae 123, 134, 157, 215, 280, 421 Canidae 358 Alosa 201 Caprifoliaceae 154, 290 Amaranthaceae 268, 316 Caprimugiformes 250 Amaranthus 316 Caprinae 266 Amaryllidaceae 165 Capsella 113 Ambrosia 404 Carex 98 Ambystoma 43, 163, 261 Carnivora 111, 175, 285, 335, 358, 412 Ambystomatidae 16, 43, 163, 261, 422 Carphophos 21 Amiidae 213 Cassia 185 Amoebae 217 Castilleja 68 Amphibia 15, 227, 233, 264, 288 Castor 111 Anatidae 143 Cathartidae 47 Angiospermae 299, 331, 379 Catinella 110 Annelida 411 Caudata 43, 242 Annonaceae 23 Caulanthus 142 Anolis 73 Celaenopsoidea 112 Anopheles 223 Anseriformes 10 Cerambycidae 40 Anthocerotophyta 367 Ceriodaphnia 34 Anura 21, 170, 177, 227, 264, 343 Cerotoma 149 Aphididae 393 Ceroyonis 153 Aphyllophorales 409 Cervidae 278 Apiaceae 31, 68 Cestoda 217 Apicomplexa 220 Cetoniinae 124 Apis 342 Chaenuusa 314 Apodidae 412 cheilanthoid ferns 337 Apoidea 40, 122, 206 Chelicerates 297 Aquatic 7, 15, 34, 45, 46, 66, 186, 241, 262, 304, 392, 419 Chiasmodontidae 180 Arachnida 217, 388, 429 Chilorhinophis 313 Araneae 388, 429 Arbutus 353 Arceuthobium 273 Chlamydia 217 Arhtrobotrys 258 Chlorophyceae 215, 235 Aristolochiaceae 23 Chorebidea 314 Asclepidaceae 119 Chorebidella 314 Ascomycetes 80, 190, 205, 334, 371 Chorebus 314 Aspergillus 162, 418 Chrysauginae 67 Asplenium 366 Aster 181, 355 Chrysophyceae 6 Asteraceae 85, 181, 253, 279, 290, 348, 353, 355 Cicadidae 145, 146 Atheridae 403 Cichlidae 310, 363 Attelabidae 135 Ciliata 217, 275 Aves 78, 116, 184, 196, 238, 333, 372, 410 Bacillariophyceae 52, 226, 430 Cladomnion 141 bacteria 217, 356 Cladomniopsis 141 Bangiales 197 Clinostomus 60 Basidiomycetes 205, 334, 344, 371, 391, 409 Clupeidae 176 Betulaceae 190, 387 Coccinellidae 149 birds-of-prey 412 Cocos 120 Bittacidae 403 Coelinidea 314 Blennioidei 129, 180 Coenomyiidae 403 Bombus 428 Coenopteridales 294 Boreidae 403

Centrarchidae 60, 88, 100, 176, 210, 213, 233, 293, 417 Chironomidae 5, 66, 182, 289, 300, 339, 403, 419 Chiroptera 59, 106, 130, 158, 175, 295, 384, 398, 402 Chrysomelidae 40, 149, 324 Cladocra 234, 312, 396, 405 Coleoptera 40, 45, 46, 82, 124, 200, 231, 237, 251, 271, 324, 395, 404, Colinus 410 Collembola 42, 232 Colubridae 16, 33, 261, 313 Clumbiformes 133 Commelinaceae 235 Coniferophytes 75 Conopidae 64 Convolvulaceae 316 Copepoda 312, 396 Coquillettidia 223 Corbiculidae 354 Cordaitales 75 Cordylanthus 68 Coreopsidinae 353 Cornus 154 Corvidae 103 Corylus 122 Cotingidae 103 Covbridae 264 Cracycera 171 Crataegus 269 Crenicicla 310

Cricetidae 158, 242, 255, 287, 341

Crocodilia 69, 250 Crotalidae 264, 412 Crotalus 21, 35 Crotaphytus 21 Cruciferae 113 Crustacea 396 Cucurbitaceae 268 Culex 49, 223 Culicidae 25, 49, 223 Culiseta 223 Curabidae 237 Curculionoidea 135 Cyanophyceae 430 Cyatheaceae 366 Cyclocrinales 277 Cyclopoida 396 Cylindrocapsales 157 Cyperaceae 98, 256

Cyprinidae 60, 87, 100, 282, 329 Cyprinodontidae 274, 381

Dacnusinae 314 Dactylella 258

Dahlia 353
Daphnia 34, 234, 405

Daphnia 34, 234, 405 Dendrobatidae 242 Desmognathus 43, 163 Deuteromycetes 190, 391

Diabrotica 125 Dichanthelium 375 Dichelodontium 141 Dinophyceae 430 Diplogyniidae 112

Diptera 5, 25, 49, 64, 66, 171, 223, 312, 403, 407

DNA viruses 217 Drosophila 54, 70 Dryopidae 271 Dryopoidea 271 Dunaliella 369

ectomycorrhizae 117, 344

Edentata 250 Elaphe 412 Elephantidae 328 Elmidae 271 Emydidae 250 Enchytraeidae 429

endangered species 41, 246, 336, 411

Entamoeba 217 Enterobacteria 217 ephemerals 285 Ephemeroptera 66, 221, 241, 299, 388, 419 Epicachna 149

Epipyxis 6 Eptesicus 59 Eragrostis 75 Ericaceae 353, 387 Eriocaulaceae 165 Eriogonum 154 Erythroxylum 298 Esocidae 100, 192, 233 Etheostoma 60 Euglenales 421 Euphorbiaceae 165 Eurotiales 418 eurypterids 297 Eustigmatophycea 215 Eutamias 287 Euzerconideae 112

extinct species 75, 214, 227, 294, 297, 309 Fabaceae 119, 168, 185, 256, 337, 425

Fagaceae 190 Falconidae 47, 412 Felidae 111, 358 Felis 111, 116

Eviphidoidea 191

fishes 22, 87, 91, 180, 182, 184, 233, 262, 265, 304, 312, 412

Flagellata 217 Formicariidae 103

freshwater 134, 197, 215, 280, 411

fungi 117, 334, 344 furbearers 238

Galliformes 10, 94, 402, 410

Gastropoda 82, 118 Geocalycaceae 97 Geomyidae 111, 287 Geomys 111 Giardia 217 Glutopidae 403 Glycine 149, 168 Glyphothecium 141 Gobioidei 129, 180 Gulo 111

Gymnospermae 379
Gymnosiformae 274

Gymnotiformes 274, 362 Gyrinophilus 43 Haideotriton 43 Haliplidae 46, 427 Hampeella 141 Haptophyceae 430 Harposporium 258 Heliantheae 353 Helianthus 122, 270 Helminths 265

Hepaticae 97, 367 Hesperiidae 44 Hesperioidea 385 Heteroptera 45 Heterozerconoidea 191 Hirudinea 411

Hispinae 324 Histeridae 407 Holbrookia 21 Holobasidiomycetes 391 Holocentridae 129

Holocentridae 129 Holothyroidea 191 Homoptera 393 Hydrophiidae 394 Hydrozoa 107, 408 Hyla 50, 264

Hylidae 21, 50, 242, 264, 343 Hymenoptera 40, 156, 206, 314, 342

Hyphomycetes 80, 334, 391

Musci 306, 356

mussels 182 Hypoxis 165 Mustela 111, 116 Ictaluriidae 100, 176, 233, 363 Mustelidae 111, 412 Indicatoridae 116 Insecta 31, 46, 95, 145, 189, 206, 212, 388, 392, 404, 407, 419, 421, Myctophiformes 180 Myobatrachidae 242 Myristicaceae 23 Insectivora 128, 309, 323, 345 Myxoymycetes 244, 334 Inuleae 253 Naididae 1 invertebrates 7, 15 Najadaceae 378 Iquanidae 21 Iridaceae 387 Natrix 412 Nematoda 7, 217, 425 Ithomiinae 86 Nemonychidae 135 Jacquemontia 316 Nerodia 261 Juglandaceae 190 Noctuidae 121, 149, 219 Juglans 269 Kinosternidae 33 non-game birds 196 Notodontidae 121 Kinosternon 33 Notophthalmus 43 Lacertidae 398 Notropis 60, 329 Lagomorpha 285 Notorus 60 Lampropeltis 21, 412 Nycteribiidae 407 Lauraceae 57 Nymphalidae 86, 332 Lepidodendrales 294 Ochromonas 6 Lepidoptera 32, 44, 67, 72, 86, 121, 172, 219, 331, 385 Odocoileus 303 Lepiota 371 Lepisosteidae 213 Odonata 301, 421 Lepomis 60, 417 Oecophoridae 31 Leptodactylidae 242 Oedogoniales 157 Leptomedusae 408 Oleaceae 190 lichens 15, 84, 279, 285, 334, 420 Oligochaeta 1, 66, 87, 411, 416, 429 Liliaceae 387 Opheodrys 33 lizards 170 opossums 295 Loganiaceae 165 Orchidaceae 23, 41 Longicornis 125 Orthida 107 Lonicera 290 Orthocarpus 68 Loranthaceae 273 Orthopodomyia 223 Orysias 34 Loricariidae 329 Lucanidae 332 oscines 116 Lumbricidae 429 Ostariophysi 329 Lycopsida 294 Osteichthyes 53, 329 Lycosidae 429 Oxyloma 110 Macaca 104 Palmae 120 macroinvertebrates 66, 186, 262, 304 Pandionidae 47 Macropodidae 285 Panicum 375 Mallomonas 6 Panorpidae 403 Malus 269 Panorpodidae 403 Mammalia 116, 158, 238, 267, 278, 303, 309, 333, 372, 398, 412 Panthera 111 Mammut 328 Papilionidae 31, 86, 331, 332, 385 Mammuthus 328 partunid crabs 297 Mansonia 223 Passer 9 Marattiales 294 Passeriformes 103, 133, 412 marine 91, 430 Pelecypoda 221 Marsupialia 250, 323 Penicillium 162, 418 Mecoptera 403 Pennsylvanioxlyon 75 Meloidae 40 Penetatomoidea 247 Meropeidae 403 Percichthyidae 100, 176, 233 Mesembrinellidae 25 Percidae 53, 60, 87, 88, 233, 282 Mesostigmata 191 Perciformes 60, 417 Mesoxylon 75 Perideridia 68 Micropterus 417 Peromyscus 42, 158, 255 Microtinae 128, 255, 266 Phasianus 410 Microtus 255, 341 Philonotis 431 Mimosoideae 337 Phycomycetes 155 Miscogasterinae 156 Phyllostomidae 106, 130 mites 191 Phytolaccaceae 353 Molluginaceae 268 phytoplankton 430 Mollusca 110, 312, 351 Piciformes 133 Moniliaceae 258 Pimelodidae 310 Monimiaceae 12 Pimephales 34 Monogononta 396 Pinaceae 377, 387 Monotremata 267 Pinus 377 Morchella 117 Piperaceae 57 Mucorales 155

Pipridae 103

Platanus 269

Plathypena 149 Platymonas 235 Platyrrhini 105

Plecoptera 241, 299, 388

Plethodon 383

Plethodontidae 16, 43, 163, 227, 383

Ploima 396

Poaceae 75, 83, 92, 93, 256, 285, 375, 425

Poeciliidae 129 Poecilopholis 313 Polemon 313 Polychaeta 411 Polypodiaceae 366 Pomacentridae 53 Pontederia 428 Portulaca 434

Potamogetonaceae 378

Primata 74, 104, 105, 175, 250, 323

Primulaceae 8 Proboscidea 128, 328 Procyoxidae 358 Prosorbranchia 107 Prostigmata 191 Protozoa 220 Pselaphidae 395 Psephenidae 271

Pseudacris 21, 50, 264, 343 Pseudoplatystoma 310 Pseudotriton 43 Psocoptera 95 Psorophora 223

Pteridophyta 123, 259, 294, 337, 364, 366

Pteridospermopsida 364 Pteromalidae 156 Pterophoridae 67 Pteropidae 106 Ptychomnion 141 Pupillidae 110 Pyralidae 67 Pyraloidea 67 Quercus 269 Rachiceridae 403 Radiocyatales 277

Receptaculitales 277

Rana 50, 202

Reptilia 16, 233, 264, 288, 398, 412

Rhagionidae 403 Rhipiphoridae 40 Rhodophyta 197 Rhopaiocena 44 Rhopalocera 72, 86, 153 Rhynchitidae 135 Rhynchonellida 107 RNA viruses 217

Rodentia 48, 111, 128, 158, 189, 250, 255, 266, 287, 295, 296, 33!

345, 384, 402 Rosaceae 154, 316 Rotifera 396

Salamandridae 16, 43, 383

Salicaceae 268, 387 Salientia 50

Salmonidae 100, 192, 233

Salticidae 429 Sapindaceae 337 Sarops 314 Sarracenia 428 Saturnidae 332 Saurauia 348 Scarabaeidae 124 Sceloporus 21 Schistochilaceae 97

Schizogyniidae 112

Sciaenidae 363

Sciuridae 48, 143, 266, 278, 287

Sciurus 48 Scolopax 94 Scolytidae 404 Scrophulariaceae 23, 68 Scyphozoa 107 Sejina 191

Senoculidae 429 Serpentes 21, 170, 239, 313, 412

Serrasalminae 274 Shaeriidae 354 Sigmodon 341 Silphium 355

Siluriformes 60, 329, 362

Sinapis 113 Siren 43 Sistrurus 35 Solanaceae 268, 298 Solidago 119 Solvidae 403 Soricidae 128, 158 Sphaeropleales 157 Spiraea 154 Spiriferica 107

Squamata 21, 33, 73, 264

Stanleya 142 Staphylinidae 231 Sternotherus 33 Stevia 348 Stomiiformes 180 Storeria 33 Streblidae 407 Strepsiptera 200 Strigidae 47 Strophomenida 107 Succinea 110 Sylvilagus 94 Symphya 314 Symplocarpus 154 Synura 6 Syprinidae 233

Symplocarpus 154
Synura 6
Syprinidae 233
Takydromus 398
Talpidae 309
Tamiasciurus 48
Teleostomi 312, 329, 359
Temnospondyli 227

Tenebrionidae 251 Terebratulida 107 Testudinidae 33, 250, 257 Tetraphidopsis 141 Tetraselmis 235 Thais 82 Thamnophis 16, 33 Thelypodiopsis 142 Thelypodium 142

Thelypodiopsis 14: Thelypodium 142 Thereuidae 171 Thomomys 287

threatened species 246, 336, 411

Thymelaeaceae 272 Tilia 154 Torula 80 Tradescantia 235 Trematoda 91 Tribolium 82, 251

Trichomonas 217 Trichoptera 66, 221, 241, 299, 388

Trientalis 8

Trigynaspida 112, 191 Tubificidae 1, 300, 339, 416

Tympanuchus 410 Typhlotriton 43 Tyrannidae 103 Tytonidae 47 Ulmaceae 268 Ulmus 269 Umbridae 192 ungulates 38, 425, 426 Unionidae 87, 221, 354 Unionoida 333 Uranotaenia 223 Urodela 227 Urodeles 16, 163 Vauquelinia 154 Verbenaceae 268 Vertebrata 411 Vespertilionidae 59, 106, 130, 398 Virgifera 125 viruses 217 Viscaceae 273 Vombatidae 285 Xanthium 149 Xanthophyceae 215 Xenarthra 267 xiphosurans 297 Xylophagidae 403 yeasts 205 Zenaida 94 Zizania 122 Zoraptera 237, 314

5.2.3 Ecological Expertise:

abatement 289 abundance 196 acarine 191 acids 363 activity 49, 146 adaptation 145, 344 adult 177 adventive 435 aerial 310 age 88, 233 agriculture 94, 125, 133, 149, 401 agroecosystems 59, 125, 149, 171, 418 air pollution 347 algae 6, 215, 421 alpine 15 alteration 363 altitudinal 25 Amazonian 362 ambrosia beetle 404 amenity trees 14, 269 Amerindians 193 amphibians 16, 29, 43, 50, 313, 383 animal 24, 148, 185, 230, 235 animal management 338 annuals 418 ant/plant interactions 28, 81 anurans 177, 202 applications 245, 345 applied 42, 400, 409 aquatic 11, 12, 62, 66, 127, 186, 226, 228, 233, 241, 301, 302, 304, 346, 354, 363, 378, 430 aquatic ecology 32, 77, 152, 179, 182, 184, 186, 257, 301, 343, 365, aquatic ecosystems 58, 240, 276, 311, 386 architecture 160 arctic 24 arid 349 arthropod 42, 135 artificial 55, 222, 243 assessment 187, 279, 327, 420

associations 175, 356, 373, 392 Asteraceae 122 atmosphere 211 aufwuchs 66 autecology 257, 353 availability 30 avoidance 146 bacteria 62, 126, 356 balances 32 banding 305 bats 59, 148, 236 bees 428 beetle 237 behavior 4, 86, 122, 153, 195, 200, 264, 305, 307, 360, 385, 390, 397, behavioral ecology 16, 38, 159, 171, 202, 338, 342, 368 benthic 45, 66, 221, 276, 411, 416 bioassays 34 biochemical 417 biogeochemistry 430 biogeography 4, 25, 78, 103, 146, 153, 218, 264, 331, 351 biomass 58 bionomics 49, 223 biostatistics 401 birds 4, 9, 29, 36, 37, 39, 42, 56, 94, 133, 166, 174, 187, 191, 196, 238, 274, 302, 305, 310, 318, 335, 340, 341, 376, 434 bogs 334 bottomlands 51, 317 brachiopods 107 Brazil 120 breeding 36, 111, 113, 166 breeding systems 253 brood 318 bryophytes 141, 306 budgets 122 butterflies 172, 353 Calliphoridae 25 captive 111 carbon dioxide 113, 423 cat 116 catostomid 346 caves 81, 236, 237, 302 censusing 37, 233, 261, 279, 305, 310, 313, 340 Cercyonis pegala 153 cereal 162, 418 channelized streams 89 chaparral 418 chemical 31, 107, 235, 337 chemical ecology 200, 353 chemistry 77, 224, 245, 289 chromosomes 235 Chrysophyceae 6 cicada 382 Cladocera 234, 312, 396, 405 classification 65, 279, 327, 331, 343, 344, 346 clastogenicity 235 climax 370 coal 182, 346 coevolution 330 Coleoptera 200 collection 72 communication 146, 177, 211 communities 2, 11, 24, 34, 45, 56, 58, 65, 86, 93, 107, 109, 120, 127, 128, 129, 138, 140, 170, 174, 184, 186, 187, 189, 195, 201, 209, 210, 218, 222, 226, 241, 246, 262, 279, 283, 291, 306, 315, 317, 331, 344, 346, 347, 363, 367, 381, 404, 412, 416, 418 404 community ecology 4, 8, 9, 26, 27, 59, 108, 204, 256, 264, 294, 318, 368 community structure 11, 107, 129, 262, 306, 367, 381 comparative 412 competition 30, 48, 79, 129, 284, 286 composition 122, 350 compounds 34, 235 computer 260

conservation 187, 236, 257 evolutionary ecology 178, 253, 282, 295, 302 contamination 279, 311 exchange 423 control 148, 223, 326, 423 exotic 148 cooling lakes 346 experimentation 61 coprophilous 418 exploitation 201 corn 155 fauna 116, 175, 191, 295 corticolous 141 fens 281 Corylus 122 ferns 123 cottontail 321 field 233, 261, 279, 305, 313, 412 cowbirds 305 field stations 402 crocodiles 310 fire 8, 109, 418 fish 11, 26, 53, 55, 58, 60, 63, 88, 89, 176, 201, 222, 233, 260, 262, crops 149, 178, 324, 425 crustaceans 63, 302 302, 304, 313, 329, 346, 362, 363, 381, 392 Culicidae 49 fisheries 88, 228, 289 cultivated 12, 155 flight 49, 211 cultural 309 floating 302 cycles 146 flocking 211 cycling 321 floodplains 50, 354 damping-off 20 flora 141, 373 dams 296 floral display 424 data analysis 61, 433 floristics 108, 197, 298 database 260 flow 7, 304 deciduous 395 flower-visiting 122 decomposition 297 flowering 299 deer 71, 136, 203, 278 fluctuations 170 defense 200 food 358 demography 16, 20, 103, 113, 138, 139, 160, 225, 261, 278, 345, 357 foraging 103, 122, 202, 318, 428 density 138 forest 8, 14, 18, 51, 93, 96, 108, 109, 109, 178, 188, 218, 250, 260, desert 171 302, 317, 318, 335, 350, 368, 382, 387, 389, 395 development 60 fossorial 50 diatom 226 freshwater 6, 63, 126, 134, 144, 215, 228, 237, 274, 275, 329 diet 60 fruit 122 digenetic 265 fungi 117, 155, 162, 190, 344, 382, 418 discharges 241, 365 furbearer 139, 164 disease 20, 190, 269 game 139, 238, 434 dispersal 20, 28, 171, 211, 225, 424 geographical 107, 264 dispersion 225 geological 153, 331 display 424 germination 20, 418 distribution 25, 41, 49, 58, 72, 89, 153, 172, 196, 209, 254, 362 glade 188 disturbance 11, 137, 182, 254, 383, 416, 434 glaucous gulls 368 disturbed lands 90, 216 grassland 8, 56, 90, 92, 138, 243, 410 grazingland 425 diversity 135, 170, 351, 387, 404 domestic 116 group selection 79 drift 66 grouse 410 driptips 382 growth 18, 20, 60, 88, 138, 233 Drosophila 54 dunes 302 habitat 39, 94, 109, 127, 139, 166, 174, 187, 222, 231, 238, 260, 267, dynamics 10, 11, 24, 26, 49, 51, 63, 76, 103, 132, 136, 143, 159, 200, 276, 304, 318, 329, 335, 343, 352, 363, 369, 372, 387, 416 219, 224, 233, 252, 302, 312, 324, 329, 369 habits 358 ecological genetics 18, 82, 113, 234, 293, 405, 417 hardwoods 190, 302 ecosystems 62, 66, 126, 171, 187, 215, 243, 254, 315, 395, 418 harvest 136 ecotoxicology 291 hazardous 186 edaphic 254 heat 423 education 368, 382, 412 heavy metals 240 effluents 34, 262, 386 hedgerows 216 herbivores 24, 252 emergence 149 encroachment 435 herbivory 208, 328 hill prairie 99 endangered 29, 41, 140, 148, 257, 291, 321, 402, 411 energetics 211, 321, 349, 362 history 137, 331 Holocene 303 energy 7, 32, 122, 154, 349 home range 345 entrainment 66 homing 211 environment 19, 33 environmental factors 2, 217, 267, 326, 369 horticulture 12, 387 environmental issues 19, 249, 274, 295, 300, 311, 339 host 146, 175, 200, 245, 397, 404, 421 human 4, 122, 235, 296, 309, 328, 349 ephemerals 390 epibiosis 421 hybridization 50 epidemiology 190 hydroelectric 296 identification 72, 101, 387 establishment 243, 402, 435 impact assessment 1, 2, 11, 13, 34, 45, 46, 59, 66, 127, 182, 186, 216, estuarine 363 217, 221, 235, 237, 241, 249, 262, 274, 295, 296, 311, 312, 321, ethnobotany 298 341, 347, 349, 353, 363, 365, 380, 386, 392, 412, 435 ethology 400 impingement 66 evolution 82, 103, 125, 128, 146, 170, 309, 357, 382, 430

imprinting 434	monarch 353
individuals 174	monitoring programs 13, 61, 281
insect ecology 208, 219, 223, 245	monocarpy 20
insecticides 223	morphology 33, 302
insects 14, 31, 86, 122, 125, 146, 149, 153, 178, 208, 211, 219, 225,	mosquito 223, 289
283, 301, 324, 360, 382, 397, 412	moss 356
instream 304	mouse 235
interactions 28, 31, 45, 81, 185, 201, 208, 216, 219, 225, 252, 319,	movements 89, 225, 305
328, 349, 397, 401, 421	multispecies 34
interference 149	mussels 228
interspecific 104, 252	mutagenicity 235
inventory 41, 84, 101, 140, 279, 327, 331, 387	mycorrhizae 254
invertebrates 7, 237, 304, 421	mycotoxigenic 418
island 103	natural 50, 58, 140, 184, 243, 263, 331, 335, 336, 416
laboratory 34, 284	natural areas 41, 99, 101, 102, 109, 119, 137, 140, 148, 188, 197, 218,
lakes 5, 52, 144, 176, 240, 263, 289, 299, 346, 363	246, 268, 279, 282, 316, 335, 402, 409, 420
land use 127, 216, 401, 402, 435	natural history 176, 209, 381, 383
landscape 167	natural selection 357
lead 279	Nearctic 72
leaf 190	Neotropics 250
legumes 200	nest 410
lentic 58	nesting 36
Lepidoptera 72, 86, 360, 368	neutralization 52
lichens 84, 347	niche 129, 306, 344
life history 14, 43, 60, 67, 79, 136, 138, 139, 158, 163, 247, 251, 255,	nitrogen fixation 204
261, 265, 278, 282, 301, 329, 357, 392, 424	nongame 60, 238
life table 225	nutrient cycling 7, 254, 260, 319
limestone 141 limnology 77, 127, 134, 299, 369	nutrition 10, 143
	nutrition ecology 24, 200, 224
lymphocytes 235 macroinvertebrates 45, 66, 221, 241, 262, 392	oak-hickory forest 370 off-road vehicles 341
maintenance 435	old field 96, 138
mammals 24, 29, 37, 42, 48, 59, 94, 138, 139, 158, 159, 183, 238, 252,	optimal foraging 202
279, 303, 321, 335, 340, 349, 390, 402	organic matter 51
mammoths 328	organization 170, 418
man 217, 249	orientation 211
man-made 58	overwintering 49, 149
managed 55	paleobiology 303
management 41, 42, 88, 94, 101, 102, 111, 125, 136, 139, 140, 143,	paleobotany 214
148, 152, 176, 187, 197, 203, 209, 233, 236, 238, 243, 257, 260,	paleoecology 75, 128, 193, 194, 277, 297
279, 281, 283, 289, 312, 315, 331, 333, 335, 336, 368, 372, 387,	paleotropical 294
402, 409, 420	palm 120
manipulation 187	palynology 194
marine 107, 117, 329	parasites 63, 111, 191, 318
marsh 216	parasitism 175
Massosspora cicadina 382	parks 288
mastodonts 328	parthenogenesis 234
mathematical 307	pathologic 217
mating 146, 318	patterns 149, 351
mechanisms 61	Pennsylvanian 107, 214, 294
metabolites 337	periphytic 134, 276
metals 240, 430	pest management 125, 178, 208, 245
meteorology 211	pheasants 401
methane 126	phenology 20, 154, 166, 326
methods 2, 200, 245	phoresy 112
microarthropods 292	photosynthesis 2, 423, 430
microbial 217	physical 107
microbial ecology 126, 378, 430	physiographic 153
microclimatic 174	physiological ecology 2, 18, 27, 33, 143, 160, 245, 302, 306, 379, 397,
microcosms 302	423, 434
microorganisms 404	
microtine 224	physiology 10, 33, 143, 145
Microtus 138	phytoplankton 134, 280, 369, 430
Midwest 5, 166	phytoplankton 134, 280, 369, 430 plankton 76, 107
migration 149, 166, 171, 211	phytoplankton 134, 280, 369, 430 plankton 76, 107 planning 32
	phytoplankton 134, 280, 369, 430 plankton 76, 107 planning 32 plant breeding 113, 253
milkweeds 353	phytoplankton 134, 280, 369, 430 plankton 76, 107 planning 32 plant breeding 113, 253 plant community 174, 187, 204, 209, 283, 317, 331
milkweeds 353 mimicry 292, 360, 385, 397	phytoplankton 134, 280, 369, 430 plankton 76, 107 planning 32 plant breeding 113, 253 plant community 174, 187, 204, 209, 283, 317, 331 plant ecology 96, 115, 378
milkweeds 353 mimicry 292, 360, 385, 397 Missouri 350	phytoplankton 134, 280, 369, 430 plankton 76, 107 planning 32 plant breeding 113, 253 plant community 174, 187, 204, 209, 283, 317, 331 plant ecology 96, 115, 378 plants 2, 12, 15, 27, 30, 31, 41, 61, 62, 148, 160, 185, 193, 200, 219,
milkweeds 353 mimicry 292, 360, 385, 397 Missouri 350 mitigation 2, 341	phytoplankton 134, 280, 369, 430 plankton 76, 107 planning 32 plant breeding 113, 253 plant community 174, 187, 204, 209, 283, 317, 331 plant ecology 96, 115, 378 plants 2, 12, 15, 27, 30, 31, 41, 61, 62, 148, 160, 185, 193, 200, 219, 221, 224, 228, 235, 245, 252, 254, 299, 302, 313, 319, 330, 337
milkweeds 353 mimicry 292, 360, 385, 397 Missouri 350 mitigation 2, 341 modelling 46, 61, 245, 304, 307, 315, 324, 345, 357, 425	phytoplankton 134, 280, 369, 430 plankton 76, 107 planning 32 plant breeding 113, 253 plant community 174, 187, 204, 209, 283, 317, 331 plant ecology 96, 115, 378 plants 2, 12, 15, 27, 30, 31, 41, 61, 62, 148, 160, 185, 193, 200, 219, 221, 224, 228, 235, 245, 252, 254, 299, 302, 313, 319, 330, 337, 353, 373, 387, 397, 423, 424, 428, 432
milkweeds 353 mimicry 292, 360, 385, 397 Missouri 350 mitigation 2, 341	phytoplankton 134, 280, 369, 430 plankton 76, 107 planning 32 plant breeding 113, 253 plant community 174, 187, 204, 209, 283, 317, 331 plant ecology 96, 115, 378 plants 2, 12, 15, 27, 30, 31, 41, 61, 62, 148, 160, 185, 193, 200, 219, 221, 224, 228, 235, 245, 252, 254, 299, 302, 313, 319, 330, 33'

pollination ecology 40, 115, 292, 342 secondary metabolism 224, 337 secondary succession 94 pollution 34, 235, 240, 241, 347, 354, 392 sediments 77, 289 pond 176, 370 seed 20, 28, 418, 424 population 34, 50, 63, 88, 107, 138, 148, 170, 174, 177, 233, 245, 281, 310, 340, 341, 357, 402, 412, 432 seedlings 20 selection 200, 202, 318 population biology 79, 178, 230, 234, 382, 390 seral 166 population dynamics 10, 24, 26, 49, 63, 76, 103, 132, 136, 143, 159, 200, 219, 224, 233, 252, 312, 324, 329, 369 sewage plants 275 sex 82, 122, 202 population ecology 9, 27, 33, 48, 54, 59, 86, 94, 118, 138, 195, 251, shape 216 345, 372, 379, 401, 405 shrubs 269 population genetics 251 sinks 141 power 221 site index 109 power transmission 392 site selection 365 prairie 15, 50, 92, 99, 119, 133, 137, 148, 153, 188, 243, 279, 281, siting 46 286, 313, 316, 335, 350, 352, 353, 382, 387, 389, 410, 435 sludge 275 predation 20, 146, 178, 412 small mammals 24, 29, 37, 48, 138, 159, 183, 252, 279, 321, 340, 341, predator/prey 116, 201, 225, 357 349, 390, 402 prehistoric 193, 309 social 103 preservation 102, 268, 382, 402 soil 42, 171, 191, 215, 232, 317, 319, 418, 420 presettlement 8, 167 solid 346 prey 357 song 341 primate 307 South American 252 processes 174, 217, 297 spatial 30, 49 production 26, 55, 126, 222 specializations 33 productivity 240, 369, 430 speciation 50, 78 propagation 387 spring 149, 299, 390 protection 338 squirrels 278 protozoa 275 Staphylinidae 231 public education 368 statistics 225, 345, 433 quail 71 stomatal 423 rabbits 321 raccoon 325 strategies 9, 103, 136, 200, 360 radio telemetry 305 streams 5, 11, 89, 152, 176, 210, 240, 262, 271, 299, 343, 346, 434 radioisotopes 235 structure 350 radionuclide 321 substances 186 raptorial 174 subtropical 334 ratio 82 succession 61, 90, 94, 109, 174, 317, 331 rattlesnake 35 surface mine 8, 18, 52, 59, 61, 71, 173, 182, 363 reclamation 2, 8, 18, 61, 71, 90, 173, 182, 216, 420 surveys 34, 36, 61, 175, 274, 279, 295 recovery 52 survivorship 20, 60 recruitment 329 swamps 334 swifts 412 reforestation 2 regrowth 317 symbiosis 112, 392, 404, 421 regulation 177, 275 synecology 140 relationship 249, 267, 331, 402 systematics 53 systems 11, 55, 103, 127, 235, 310, 318 release 154 tadpoles 177 relic 50, 246 reproduction 43, 60, 123, 326, 330, 424 tallgrass prairie 92, 350, 435 reproductive biology 4, 9, 20, 50, 86, 113, 138, 143, 202, 253, 294, taxonomy 312 326, 390, 428 technologies 349 telemetry 305 reptiles 16, 29, 313, 383 requirements 139, 231, 387 temperate 318 reservoirs 296 temperature 222 temporal 30, 49 resources 30, 129, 184, 260, 296, 310, 312, 315, 346 restoration 209, 240, 281, 335, 387 terns 148 terrestrial 42, 62, 226, 260, 292, 334, 347 revegetation 2, 61, 420 theory 79, 81, 202, 251, 292 Rhopalocera 72, 153 thermal 66, 126, 386 riparian 98 rivers 176, 263, 354 thermoregulation 146 rodents 136, 158, 224, 255 threatened 41, 411 timberline 15 role 306, 344 roosting 211 toxicity 34, 262 toxicology 10, 19, 127, 217, 223, 224, 346, 354 root 216 trace metals 430 saline 144, 369 Tradescantia 235 salmonids 362 salt marsh 117, 216 transportation 321 salt tolerance 369 treatment 233 trees 14, 18, 190, 216, 269, 404 sampling 149, 200, 245, 340 trematodes 265 sandy 171 Tribolium 251 savanna 188 saxicolous 15, 141 trophic 26, 329 tropical 115, 267, 274, 310, 318 seasonal 49

zoological 288

tropical ecology 86, 184, 344 tropical forest 51, 108, 250, 382 turtles 368 unicellular 421 upland forests 350 upland game 94, 401 urban 114, 133, 189, 368 utilization 337, 346 values 327 variation 30, 432 vascular plants 141, 294, 341, 373 vegetation 8, 36, 61, 93, 120, 133, 233, 237, 290, 331, 336, 435 vehicles 341 vertebrates 116, 178, 368, 411, 412 vireos 36 warmwater 210 waste 346, 365 waste management 249, 392 wastewater 42 water 77, 184, 296 water bodies 58 water quality 45, 127, 216, 300, 363 watershed 32, 152 weeds 125, 149, 208, 289, 434 wetlands 51, 98, 148, 188, 291, 327, 335, 343, 389 wild 402 $wildlife\ 94,\ 132,\ 133,\ 143,\ 187,\ 260,\ 349,\ 401,\ 410$ wildlife ecology 114, 285, 402 wildlife managment 94, 164, 257, 333, 368 wind 20 woodland 136, 370, 390 xenarthrans 267 xenobiotics 19, 62 Zizania 122 zonation 329 zoogeography 252

Appendix I. Revised Questionnaire

Directory of Illinois Systematists, Ecologists, and Field Biologists

Note: Please submit this fo or having experience	rm only if you are a with Illinois biota	a systematist, eco.	logist, or field bio	ologist residing	in Illinois
Please check: No	ew Respondent	Revis	sion	I	Rev. 10/85
1. Name:(Last)		(First)		7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
			_	(Middle Initial)	
Title: Dr.	☐ Mrs.	☐ Miss	☐ Ms.	☐ Mr.	
Address: Institution					
Department of					
Street Addres	S				
City					
State & Zip C					
	Number _	·		(Extension)	
Position Title:					
What year did you join	your organization?				
					(A)
(Degree)	(Institution)		(State)		(Year)
2. Approximately what	percentage of your	time do you devo	ote to:		
Research	Teaching	Admir	nistration _	Service	
Consulting -	Curatorial Activities	Resou —— Manag		Taking Courses <u> </u>	Othe
Do you consider yourse	olf principally (chec	k one):			
☐ (1) A practicing pro	ofessional			(4) Retired, in	nactive
(2) Inactive in resear	irch due to other act	tivities		(5) An amate	ur biologis
(3) Retired, but still	active in research			(6) A studen	t
Do you consider yourse	lf principally (chec	k one):			
(7) A systematist			(9) A field	biologist	
(8) An ecologist			(10) Other		

· · · · · · · · · · · · · · · · · · ·	ns of Illinois in which your research is concentrated; also hic areas in which you do research or have extensive field
experience. (Limit of 200 typewritten cha	racters.)
If you have done field work in Illin	nois, please indicate the community or habitat types of
Illinois with which you have had extensive	e experience.
FOREST	WETLANDS
☐ (1) Upland Forest	(17) Marsh
☐ (2) Sand Forest	☐ (18) Swamp
☐ (3) Floodplain Forest	☐ (19) Bog
☐ (4) Flatwoods	(20) Fen
☐ (5) Thicket	(21) Sedge Meadow
☐ (6) Plantation	(22) Panne
	(23) Seep or Spring
PRAIRIE	(24) Stream
☐ (7) Tallgrass Prairie	☐ (25) River
(8) Sand Prairie	(26) Pond
(9) Gravel Prairie	☐ (27) Lake
(10) Dolomite Prairie	(28) Artificial Impoundment
☐ (11) Hill Prairie	
☐ (12) Shrub Prairie	PRIMARY
(13) Restored/Artificial Prairie	☐ (29) Glade
	(30) Bluff or Cliff
SAVANNA	☐ (31) Cave
☐ (14) Typical Savanna	(32) Dune or Bar
☐ (15) Sand Savanna	
(16) Barren	CULTURAL
	(33) Cultivated Field
	(34) Pasture
	(35) Successional Field
(38) <i>OTHER:</i>	(36) Mine Spoils
	(37) Developed Land (urban/suburban/industrial)

5.	With what groups of organisms do you work?					
	a. General categories:					
	(39) Flowering Plants	(50) Reptiles and Amphibians				
	(40) Gymnosperms	(51) Fishes				
	(41) Ferns and Fern Allies	(52) Insects				
	(42) Bryophytes	(53) Crustaceans				
	☐ (43) Fungi	(54) Arachnids				
	(44) Lichens	(55) Mollusks				
	☐ (45) Algae	☐ (56) Worms				
	(46) Bacteria	(57) Coelenterates				
	(47) Mammals	(58) Protozoans				
	☐ (48) Birds	(59) Other				
	F (40) F 1 1 1 III 1 1 G 1					
	(49) Endangered and Threatened Species					
c. What particular species, genera, or other taxa do you study as the subjects of your <u>ECOLOGIC</u> research? (Limit of 200 typewritten characters.)						
6.		s.)				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do	you utilize?				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do (60) Anatomy/Histology/Ultrastructure	you utilize? (69) Gross Morphology				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do (60) Anatomy/Histology/Ultrastructure (61) Biogeography	you utilize? (69) Gross Morphology (70) Nomenclature				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do (60) Anatomy/Histology/Ultrastructure (61) Biogeography (62) Chromatography/Electrophoresis	you utilize? (69) Gross Morphology (70) Nomenclature (71) Palynology				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do (60) Anatomy/Histology/Ultrastructure (61) Biogeography (62) Chromatography/Electrophoresis (63) Cladistics	you utilize? (69) Gross Morphology (70) Nomenclature (71) Palynology (72) Phenetics/Numerical Taxonomy				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do (60) Anatomy/Histology/Ultrastructure (61) Biogeography (62) Chromatography/Electrophoresis (63) Cladistics (64) Cytology/Chromosomes	you utilize? (69) Gross Morphology (70) Nomenclature (71) Palynology (72) Phenetics/Numerical Taxonomy (73) Physiology				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do (60) Anatomy/Histology/Ultrastructure (61) Biogeography (62) Chromatography/Electrophoresis (63) Cladistics (64) Cytology/Chromosomes (65) Ecology/Behavior	you utilize? (69) Gross Morphology (70) Nomenclature (71) Palynology (72) Phenetics/Numerical Taxonomy (73) Physiology (74) Reproductive Biology				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do (60) Anatomy/Histology/Ultrastructure (61) Biogeography (62) Chromatography/Electrophoresis (63) Cladistics (64) Cytology/Chromosomes (65) Ecology/Behavior (66) Embryology	you utilize? (69) Gross Morphology (70) Nomenclature (71) Palynology (72) Phenetics/Numerical Taxonomy (73) Physiology (74) Reproductive Biology (75) Revision/Monographs				
6.	research? (Limit of 200 typewritten characters. Regarding your SYSTEMATIC research only: What systematic approaches and methodologies do (60) Anatomy/Histology/Ultrastructure (61) Biogeography (62) Chromatography/Electrophoresis (63) Cladistics (64) Cytology/Chromosomes (65) Ecology/Behavior	you utilize? (69) Gross Morphology (70) Nomenclature (71) Palynology (72) Phenetics/Numerical Taxonomy (73) Physiology (74) Reproductive Biology				

. Regarding your ECOLO	OGICAL research only:	
a. Please check the items	below that apply to your ecological	gical studies.
SYSTEM		(96) Behavioral Ecology
(78) Terrestrial		(97) Commun. Descrip./Floristics/Faunistics
(79) Freshwater		(98) Community Classification/Ordination
(80) Marine		(99) Competition
		(100) Demography/Life History
HABITAT STATUS		(101) Ecological Genetics
(81) Natural		(102) Energetics/Energy Budgets
☐ (82) Man-disturbed		(103) Environmental Impact Assessment
(83) Artificial		(104) Evolution
☐ (84) Managed		(105) Field Census
		(106) Herbivory
LEVEL		(107) Human Ecology
(85) Individual		(108) Models
☐ (86) Population		(109) Nutrient Cycling
☐ (87) Community		(110) Nutrition
☐ (88) Ecosystem		(111) Physiological Ecology
(89) Landscape		(112) Plant/Soil Relations
(90) Biosphere		(113) Pollination Biology
		(114) Reclamation
APPROACH		(115) Resource Management
☐ (91) Basic		(116) Seed Biology
(92) Applied		(117) Spatial Pattern Analysis/Mapping
☐ (93) Sample Surveys		(118) Succession
☐ (94) Cultivation/Hush	pandry	(119) Toxicology
☐ (95) Experimentation		(120) Weeds/Invasion Biology
		(121) Other
b. In what specific areas of	of ecology do you have experti-	se? (Limit of 200 typewritten characters.)
B. Please send a list of yo	our publications, if possible. L	ist Enclosed? Yes No None
O. Return form to:	Kenneth R. Robertson Illinois Natural History S 607 East Peabody Drive Champaign, IL 61820	urvey

Many thanks for your cooperation! — All people who fill out and return this questionnaire will automatically receive a copy of the updated directory.



UNIVERSITY OF ILLINOIS-URBANA
3 0112 107949312